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## **Lecture Pour Tous**

# Senegal EGRA (Early Grade Reading Assessment) Baseline Report – Third DRAFT

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**Attachments:**

- Annex A: EGRA and SSME Instruments (separate attachment)
- Annex B: Additional Sampling Tables (at end of this document)



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## Executive Summary

This report presents results of an Early Grade Reading Assessment (EGRA) baseline study that took place in six regions of Senegal in May 2017. The goal of this study was to gain an accurate picture and evidence-based understanding of the status of reading competencies in three national languages, Wolof, Pulaar, and Seereer, for Grade 1 and 2 students. The study will serve as a measure to evaluate the performance of the program Lecture Pour Tous, which will begin implementation in schools in October 2017. The assessment took place in 209 primary schools across Diourbel, Fatick, Kaffrine, Kaolack, Louga, and Matam regions<sup>1</sup>. After data cleaning, assessments from 3,853 students were maintained in the final dataset.

The study is aimed at answering the following research questions:

1. What are the basic reading skills of students in Grades 1 and 2 in Senegal in three national languages (Wolof, Seereer, and Pulaar)?
  - a. What are the differences in performance between boys and girls?
  - b. What are the differences in performance between geographic locations (at the region level)?
2. What are the main skills students struggle with?
3. What student, teacher, and school characteristics are associated with higher levels of reading skills?

The EGRA instrument was composed of subtasks designed to assess foundational reading skills essential to become a fluent reader: 1) listening comprehension; 2) letter knowledge (letter sound or name as they are considered to be the same for letters within each of these national languages); 3) familiar words recognition; and 4) invented word decoding skills. In addition, the instrument measured: 5) oral reading fluency skills and 6) reading comprehension skills through a timed reading task of a short story and response to zero to five comprehension questions depending on how much of the story the student was able to read. Although no standards for text leveling currently exist in these languages, the oral and written texts were developed targeting Grade 2 students. Each national language had its own version of those subtasks. A final subtask, assessing 7) familiar French words recognition was common to all versions of the EGRA instrument.

In addition to student reading assessments, the study further aimed to examine the contextual educational context of each national language group and to identify factors in and out of school

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<sup>1</sup> The target sample was 70 schools in each language group, but data were collected in 69 Pulaar schools.

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that may affect reading in national languages. To assess these factors, the following instruments were administered: 1) a student context survey; 2) a teacher survey; and, 3) a school director survey.

## I. Summary of Findings

A summary of key findings, conclusions, and recommendations for each language is presented below. Note that the national reading program in national languages had not yet been implemented in Senegal at the time of this baseline study and children tested had not been learning to read in national languages yet. As such, the results of this study are not meant to be interpreted as a student deficit in reading competencies, but as a baseline measure that serves as a pre-treatment comparison point for future studies at midline and endline once the program has been implemented. In this context, with students having only been taught in French, the ability of students to decode in national languages can be interpreted mainly as a transfer of skills from French. Some of the main findings of the baseline include:

- Overall oral comprehension of students in the national language is high, with students answering 71% of questions correctly in the Wolof group, 20% in the Pulaar groups, and 67% in the Seereer group. The lower oral comprehension score in Pulaar needs to be investigated further as these data do not allow explanation as to whether they are due to the instrument, levels of comprehension, or linguistic composition of the schools.
- In national language subtasks, a large proportion of students were unable to identify correctly a single letter sound, familiar or unfamiliar word, or answer comprehension questions. Table i presents the proportion of zero scores across subtasks in each language group.

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Table i. Summary of zero scores on EGRA tasks in each national language group

Subtask	Wolof		Pulaar		Seereer	
	Grade 1	Grade 2	Grade 1	Grade 2	Grade 1	Grade 2
Listening comprehension	4.5%	2.7%	56.3%*	34.9%	8.9%*	4.9%
Letter knowledge	28.9%*	17.0%	18.3%*	5.1%	39.5%*	15.9%
Familiar word reading	83.9%*	52.2%	77.3%*	44.9%	88.1%*	61.9%
Invented word decoding	81.8%*	50.8%	82.4%*	48.7%	94.8%*	73.7%
Oral reading fluency	79.6%*	43.3%	91.6%*	67.4%	87.9%*	56.2%
Reading comprehension	91.3%*	72.2%	98.6%*	87.8%	96.2%*	83.6%
French familiar word reading	64.4%*	27.7%	77.7%*	39.0%	76.9%*	35.9%

\*Statistically significant difference ( $p < 0.05$ ) between Grade 1 and Grade 2. No comparisons across languages have been conducted

- Students in Grade 2 were able to identify 10.24, 5.66, and 7.17 familiar words per minute in French on average in the Wolof, Pulaar and Seereer groups respectively.
- Although reading fluency averages were very low, some students were able to read 20 words per minute in Wolof (1.3%), Pulaar (0.3%), and Seereer (0.9%).
- While students in Grade 2 performed better than those in Grade 1, there were generally no significant statistical differences across gender.
- The linguistic context in which children learn in the three language groups was not uniform. In the Wolof group, over 90% of students reported speaking Wolof with their friends and nearly 70% reported having teachers sometimes speak Wolof with them. In the Pulaar group, nearly all students (94%) reported speaking Pulaar with their friends, but only 39% reported teachers speaking Pulaar with them. The majority of children in the Seereer group reported speaking Seereer with friends (90%), but only 43% reported having teachers speak Seereer to them.
- Linguistic context at home and in the community also contrasted across groups. In the Wolof group, the vast majority of students with access to television reported watching programs in Wolof (84%), compared with only 31% and 19% of students in the Pulaar and Seereer groups, respectively, with access to watching programs in those languages.
- Few students reported having two parents able to read (14% in the Wolof group; 1% in the Pulaar group; and 10% in the Seereer group). In contrast, most students reported

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having siblings able to read (86%, 76%, and 88% in the Wolof, Pulaar, and Seereer groups respectively).

- Roughly a quarter to one third of students had attended preschool centers before primary school: 24% in the Wolof group, 23% in the Pulaar group, and 33% in the Seereer group.
- The majority of school directors (94%) and teachers (63%) interviewed in this study were men, with few differences across groups. School directors reported checking lesson plans daily (88%) or weekly (7%). Nearly three-quarters of schools reported having closed fewer than five days in the school year. In contrast, slightly more than one third of school directors reported teachers occasionally arrive late.
- The vast majority of teachers reported expectations that students decode at the end of Grade 2. Expectations about fluency and comprehension varied and a small number of teachers did not expect students to reach reading comprehension until Grade 4. Nearly all schools reported having remediation strategies for struggling students, and 85% of schools included additional classes as one strategy.
- School directors and teachers were not always aware of the new vision of the MEN to use L1 to reach reading in early grades<sup>2</sup>, but generally supported the idea of using national languages<sup>3</sup>. Directors were generally in total agreement (74%) or agreement (15%) with the vision policy. Similarly, teachers were either in total agreement (67%) or agreement (28%) with only 5% in disagreement or total disagreement. Teachers' confidence in their language skills in the national language, however, showed the need to support teachers, especially in reading and writing the national language they will work in. On a scale from 1 to 10, teachers reported an average of 5 or 6 for their reading and writing skills in the national language, compared with 9.5 in French.

## 2. Findings Specific to the Wolof Language Group

Table ii below displays average scores by grade and gender across all subtasks for students in the Wolof Language Group. As expected, for every subtask, students in Grade 2 performed better than Grade 1 students. The difference was largest for the French familiar words subtask.

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<sup>2</sup> #58 in director questionnaire and #31 in teacher questionnaire: Are you aware of the national reading program in national languages? (Êtes-vous au courant du programme national de lecture en langues nationales?)

<sup>3</sup> #59 in director questionnaire and #32 in teacher questionnaire: What is your degree of agreement with a policy that aims at having students in their first years of schools learn in national language (Wolof, Pulaar or Seereer)? (Quel est votre degré d'accord avec une politique qui vise à ce que les élèves des premières années de l'école apprennent en langue nationale (wolof, pulaar, ou sérère)?)

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At the time of data collection, students had only been taught in French, and thus this larger difference indicates a larger amount of growth due to instruction.

Students showed comprehension of the Wolof story read to them for the listening comprehension subtask by responding correctly to the listening comprehension questions they were asked. Average scores ranged from 3.22 for Grade 1 girls to 3.93 for Grade 2 boys on a scale out of 5 questions. Student performance on this task demonstrates that these students come to school with receptive vocabulary in Wolof, which is an important ingredient for building early reading skills in the language.

Compared to the other reading subtasks, students performed better on letter knowledge. In order to decode and read fluently, students must be able to identify correct letter sounds. Grade 1 students were able to identify an average of 5.38 letter sounds correctly in one minute while Grade 2 students showed a mean of 12.29 letters per minute. Transfer in students' ability to identify letter sounds in French to Wolof could in part explain this result.

Similarities in the low scores on the Wolof familiar words and invented words subtasks suggested that students were decoding at a similar rate for both existing and nonexistent words in the language. This suggests that since students have not been exposed to Wolof words in print at school, decoding words whether familiar or invented, is a novel task to the students.

On the oral reading fluency subtask, Grade 1 students still read less than one word correctly per minute on average and Grade 2 students about 3.43 words correctly. When reading fluency levels are at this level, reading comprehension is expected to be extremely low, which was the case in this study. With children having been instructed in French, one may expect higher levels of familiar word decoding on the French subtask. While comparisons across languages and contexts should be made with caution, benchmarks for oral reading fluency typically range between 40 and 60 words per minute to reach comprehension<sup>4</sup>. Seventeen students in the Wolof-language sample (both grades 1 and 2) were able to read more than 20 words per minute, or 1.2% of the Wolof language group sample.

In sum, this baseline assessment indicates that students in the initial target zones for the national reading program Lecture Pour Tous essentially have no ability to read in national language at the start of this program.

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<sup>4</sup> EGRA National Baseline Assessment in Mali (USAID, 2015).  
<http://earlygradereadingbarometer.org/files/EGRA%20in%20Mali.pdf>

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Table ii. Summary of EGRA scores in Wolof language group

The study results showed that most of the students spoke Wolof at home (82% or use the language to talk with friends (91.3%). This indicates that even in majority Wolof speaking communities, some students have a different linguistic background. A proportion of 69.7%

Subtask	Grade 1		Grade 2	
	Male	Female	Male	Female
Listening comprehension – Correct questions	3.42	3.22	3.93	3.63
Letter knowledge – Correct letters per minute	5.25	5.49	12.45	12.15
Familiar word reading – Correct words per minute	0.75	0.56	3.06	2.76
Invented word decoding – Correct invented words per minute	0.64	0.55	2.54	2.50
Oral reading fluency – Correct connected words per minute	0.80	0.60	3.59	3.29
Reading comprehension – Correct questions	0.10	0.09	0.39	0.40
French familiar word reading – Correct words per minute	2.32	2.06	10.02	10.43

reported having spoken Wolof with their teachers, which was the biggest proportion among the three national languages of the study. But, when students reported to have reading materials at home or in school, these reading materials were rarely in Wolof. Only 5.8% of the students have reading materials in Wolof at home and 2.8% in school. In addition, two thirds of the students said that both their parents were not able to read.

### 3. Findings Specific to the Pulaar Language Group

Table iii below displays average scores by grade and gender across all subtasks for students in the Pulaar Language Group. As expected, for every subtask, students in Grade 2 performed better than Grade 1 students. The difference was largest for the French familiar words subtask. This indicates the learning, though very low, that occurs between Grades 1 and 2 for children,

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and that the children were learning at the time of the baseline in French-medium classrooms so their exposure to familiar French words in print slightly increased from one grade to the next.

Students experienced difficulties with the listening comprehension task in the Pulaar language group, unlike the other two language groups. This could be due to a flawed story or set of questions that were difficult to understand, or perhaps a poor language match in some cases although this was not borne out in the student context responses. While a reason cannot be stated with surety, there does appear to be an issue with the Pulaar listening comprehension task because there is an important difference in this task compared to other language groups and their listening comprehension tasks. This large difference from one language group to another is not found on any other EGRA task. The overall EGRA test is not problematic, but this listening comprehension task in Pulaar may be too difficult. There was a pre-test with a small pilot group in each language, but the pilot population for Pulaar may not have been sufficient. This pre-test group had issues understanding and responding. Revisions were made after the pre-test in response to those pre-test results. No further piloting was done following the completion of the tools workshop in March. Training of data collectors then data collection had to be completed by May. In 2018, a pilot study of instruments will be conducted. Additional listening comprehension and ORF passages will be developed in late January, then a piloting and equating study will be done with a larger sample for each language group in March.

Compared to the other reading subtasks, students performed better on letter knowledge. In order to decode and read fluently, students must be able to identify correct letter sounds. Grade 1 students were able to identify an average of 8.71 letter sounds correctly in one minute while Grade 2 students showed a mean of 16.34 letters per minute. Transfer in letter knowledge from French to Pulaar and similarities between Pulaar and French alphabets and phonology could in part explain this result.

Similarities in the relatively low scores on the Pulaar familiar words and invented words subtasks suggested that students were decoding at a similar rate for both existing and nonexistent words in the language. This suggests that since students have not been exposed to Pulaar words in print, all words whether familiar or invented, are novel to the students.

On the oral reading fluency subtask, the students performed a bit worse than on the familiar and invented word subtasks; Grade 1 students still read less than one word correctly on average and Grade 2 students less than two words correctly. When reading fluency is at this level, reading comprehension is expected to be very low and this is borne out in the results as well. Five of the students in the Pulaar-language sample could read more than 20 words a minute, or 0.8% of the sample.

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Table iii. Summary of EGRA scores in Pulaar

Subtask	Grade 1		Grade 2	
	Male	Female	Male	Female
Listening comprehension – Correct questions	0.66	0.83	1.12	1.37
Letter knowledge – Correct letters per minute	8.08	9.32	15.72	16.88
Familiar word reading – Correct words per minute	1.06	0.85	2.92	3.13
Invented word decoding – Correct invented words per minute	0.46	0.60	2.33	1.91
Oral reading fluency – Correct connected words per minute	0.29	0.32	1.68	1.88
Reading comprehension – Correct questions	0.01	0.02	0.16	0.19
French familiar word reading – Correct words per minute	0.77	1.19	5.06	6.18

The study results showed that most of the students had been exposed to Pulaar at home and use the language to talk with friends. Only 38.7% of the students reported having spoken Pulaar with their teachers, which was the smallest proportion among the three national languages of the study. Also, when students reported having reading materials at home or in school, these reading materials were not often in Pulaar. Only 0.8% of the Pulaar students report having reading materials in Pulaar at home while this proportion is 0.2% for reading materials in school. In addition, the percent of students reporting that one or more parents can read was lowest (4.8% report that their mother can read and 7.7% that their father can read) among the three language groups for this sample.

#### 4. Findings Specific to the Seereer language group

Table iv below displays average scores by grade and gender across all subtasks for students in the Seereer Language Group. As expected, for every subtask, students in Grade 2 performed

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better than Grade 1 students. The difference was largest for the French familiar words and Seereer letter sounds subtasks. This indicates the learning, though very low and not to standard, that occurs between Grades 1 and 2 for children, and that the children were learning at the time of the baseline in French-medium classrooms so their exposure to familiar French words in print slightly increased from one grade to the next. Especially for the letter sounds in Seereer that mimic those in French, students would be expected to have more capacity to produce those letter sounds from Grade 1 to Grade 2.

Students showed comprehension of the Seereer story read to them for the listening comprehension subtask by responding correctly to the listening comprehension questions they were asked. The proportion of students who were unable to answer any question correctly on this task was very low, indicating also an accurate language and grade level match. Student performance on this task demonstrates that these students come to school with receptive vocabulary in Seereer, which is an important ingredient for building early reading skills in the language. In thinking about the performance on listening comprehension described here in relation to that described above in Pulaar, it is important to remember that there is no way to compare the quality of each task by language. The language of the Pulaar text may be adequate, but too difficult for Grade 1 and 2 students. While it is tempting to compare the Pulaar and Seereer groups on this subtask, it is advisable to avoid comparing languages as much as possible as their phonologies, vocabularies, as well as those who worked on the item creation in each language group, are different.

Compared to the other reading subtasks, students performed soundly on letter knowledge. In order to decode and read fluently, students must be able to correctly identify letter sounds. Grade 1 students were able to identify an average of 4.73 letter sounds correctly in one minute while Grade 2 students showed a mean of 11.58 letters per minute. Transfer in letter knowledge from French to Seereer and similarities between Seereer and French alphabets and phonology could in part explain this result, but the Seereer alphabet also contains additional letters and symbols in it that need to be learned in the new national reading program.

Similarities in the relatively low scores on the Seereer familiar words and invented words subtasks suggested that students were decoding at a similar rate for both existing and nonexistent words in the language. This suggests that since students have not been exposed to Seereer words in print, all words whether existing or invented, are novel to the students. In addition, there is perhaps some transfer from the low reading competency of the child in L2 (French) to these word-reading tasks in L1 (Seereer) at play on this task, but note that reading 1 to 2 words on average across the sample is a very low performance in word reading for Grades 1 and 2.

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Performance of the students on the oral reading fluency subtask is similar to the familiar and invented word subtasks; Grade 1 students still read less than one word correctly on average and Grade 2 students 3.34 words correctly on average. When reading fluency is at this level, reading comprehension is not expected to be very high and this is borne out in the results as well. Although the average reading fluency was very low, driven by nearly two-thirds of students unable to read a single word, some students were able to read upwards of 20 words per minute. In the Seereer group, 14 students or 1.1% of the sample could read more than 20 words per minute.

Table iv. Summary of EGRA scores in Seereer by grade

Subtask	Grade 1		Grade 2	
	Male	Female	Male	Female
Listening comprehension – Correct questions	3.18	3.00	3.68	3.60
Letter knowledge – Correct letters per minute	4.66	4.79	10.07	13.04
Familiar word reading – Correct words per minute	0.38	0.43	1.81	2.35
Invented word decoding – Correct invented words per minute	0.33	0.26	1.69	1.79
Oral reading fluency – Correct connected words per minute	0.59	0.66	2.91	3.75
Reading comprehension – Correct questions	0.08	0.05	0.18	0.30
French familiar word reading – Correct words per minute	1.10	1.22	6.27	8.04

The study results showed that most of the students had been exposed to Seereer at home and use the language to talk with friends. Meanwhile, 42.7% of the students reported having spoken Seereer with their teachers, which was more than for Pulaar students, but less than for Wolof students. Also, when students reported have reading materials at home or in school, these reading materials were not often in Seereer. A proportion of 2.4% of the students reported having reading materials at home in Seereer and 2.9% report such reading materials in school. In addition, just 27.2% of the students report having one parent who can read.

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## **USAID/Lecture Pour Tous Senegal EGRA Baseline Report – Third DRAFT Body of the Report**

### **I. The Lecture Pour Tous Program**

The government of Senegal is implementing a national reading program in the early grades in three national languages<sup>5</sup>, Wolof, Pulaar, and Seereer. USAID (United States Agency for International Development) is supporting this national reading program through Lecture Pour Tous, working hand in hand with the education ministry (MEN- Ministère d'Éducation Nationale). INEADE (Institut National d'Étude et d'Action pour le Développement de l'Éducation) is the MEN agency responsible for student assessment, among other research roles, and as such is the main entity with whom Lecture Pour Tous is working toward the outcome of improved early grade reading assessment. An additional objective is to provide technical assistance to strengthen the capacity of the INEADE and other actors at the decentralized levels to conduct EGRAs autonomously. Lecture Pour Tous, as supported by USAID, targets three outcomes to achieve the goal of at least 70% of second grade children reading at grade level by the end of the program in 2021: early grade reading instruction in public primary schools and *daaras* improved, delivery systems for early grade reading instruction improved, and parent and community engagement in early grade reading improved. The EGRA baseline study and findings described in this report are meant to provide a pre-treatment comparison point that will be a critical tool to gauge how effective the program is in the end, but also how it can be made more effective along the way.

### **2. Design of the Study**

The EGRA baseline study was used to investigate levels of reading competencies among students in Grade 1 and 2 in a sample of schools that will participate in the national language reading program in six regions of Senegal. Specifically, the baseline study was used to answer the following research questions presented below.

#### **2.1 Research Questions**

1. What are the basic reading skills of students in Grades 1 and 2 in Senegal in three national languages (Wolof, Seereer, and Pulaar)<sup>6</sup>?
  - a. What are the differences in performance between boys and girls?

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<sup>5</sup> The term national language refers to a language in a country that is not a colonial language (FHI360, 2017).

<sup>6</sup> A French familiar words subtask was also included for each of the three language group instruments.



- b. What are the differences in performance between geographic locations (at the region level)?
2. What are the main skills students struggle with?
3. What student, teacher, and school characteristics are associated with higher levels of reading skills?

## 2.2 Purpose of the assessment

The goal of this study is to gain an evidence-based understanding of the status of the level of competency in reading in three national languages and the factors that could affect reading performance, and in particular serve as the means to measure the indicator of Lecture Pour Tous' highest outcome level: the percent of students who, by the end of two grades of primary schooling, demonstrate that they can read and understand the meaning of grade level text. Given that Lecture Pour Tous had not yet been implemented in Senegal at the time of this baseline study (2017 is a program development year and the school year 2017-2018 is the first year of implementation in the classrooms) and children tested had not been learning to read in national languages yet, the results of this study are not meant to be interpreted as a deficit, but truly as a baseline measure that serves as a pre-treatment comparison point. In fact, what can be detected with this baseline is the level of transfer of reading competencies gained in French (L2) during schooling to LI, not yet taught explicitly.

This baseline study will be used to monitor improvement in reading competency in national language at each successive time point. The midline study will take place after two years of implementation of the program in 2019 and the endline study will take place after four years of program implementation in the classroom. The midline measure will be used to monitor improvement and guide program implementation in a formative capacity while the endline will serve as a summative program evaluation measure. The endline may also serve as formative to the MEN in their establishment and any revision of curriculum standards and instruction policy.

## 2.3 Sampling Strategy

*Population.* The target population was Grade 1 (CI) and Grade 2 (CP) students enrolled in primary schools in six regions of Senegal (Diourbel, Fatick, Kaffrine, Kaolack, Louga and Matam). Those six regions will all ultimately be part of the Lecture Pour Tous program as funded by USAID based on the rollout plan over the next four years. Each school in those regions was categorized by the national language that was predicted to most represent the mother tongue of the majority of students who attend the school and the language match of the school environment. Prior to any sampling selection, the majority language of the school was verified for every school in the population. It is of note that, at the end of Year 1 of the

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program and again in Year 2 for the remaining regions, a language mapping study will take place so it is possible some of the socio-linguistic estimates made per school could change although the baseline had to proceed before the language mapping study had been carried out. The population was composed of 1,557 Wolof schools, 386 Pulaar schools, and 538 Seereer schools. According to the EMIS<sup>7</sup> data, the number of students per language in the population was: 147,410 Wolof students, 33,127 Pulaar students, and 49,734 Seereer students.

*Sampling design.* A two-stage cluster random sample was used with proportional stratification for the sampling design. At the first stage, schools were randomly selected, while in the second stage, students within schools were randomly selected. For the first stage, the department (covered by the office of one Inspection de l'Education et de la Formation, IEF) was used as a stratification variable and schools were drawn proportionally to the number of schools in each stratum. In order to have similar precision in all sample estimates, the size of the sample was similar for every language since the precision is dependent on the size of the sample. For every language, 70 schools were selected at stage one. An additional sample of 30 schools per language was drawn to serve as replacement schools in case any chosen school could not participate in this survey. In each school, a random sample of five female and five male students was selected in for each Grade 1 and Grade 2. The total targeted sample was 700 students per language per grade for a total of 4,200 students.

### 3. Data Collection

Towards these aims, the methodology consisted of two types of data collection instruments: Early Grade Reading Assessment (EGRA)<sup>8</sup> and Snapshot of School Management and Effectiveness (SSME)<sup>9</sup> questionnaires. An instrument development workshop was held in Dakar in February 28 – March 7, 2017, including the pilot testing of the instruments and their revision, with a closing approval meeting held at INEADE on March 9, 2017. The workshop participants included MEN officials from the DEE (Direction de l'Enseignement Élémentaire), DALN (Direction de l'Alphabétisation et des Langues Nationales), and INEADE. Over the course of the workshop days, the participating researchers and experts from MEN developed and piloted EGRA student tools in Wolof, Pulaar, Seereer, and French. Previously developed tasks for letters, familiar words, and in the case of Wolof, for oral reading fluency, were used as examples to look at and critique, and determine how to create tasks for the baseline in each language. For Seereer, no previous instrument was in existence to examine. As seen in the table below, seven tasks were developed in each language group, with one French familiar word task created by the whole group to be used in each of the language group instruments. Other

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<sup>7</sup> Education Management Information System

<sup>8</sup> <https://globalreadingnetwork.net/resources/early-grade-reading-assessment-egra-toolkit-second-edition>

<sup>9</sup> <https://globalreadingnetwork.net/eddata/snapshot-school-management-effectiveness-ssme-2007>

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associated questionnaires for school directors and teachers as described in section 3.1 below were developed by the workshop participants, building on examples from other EGRA studies. The data collection was required to take place in schools in April-May 2017 for the baseline study, so all tools had to be developed in time for testing, revising, and validating the tasks, and then also programming in Tangerine for use on tablets.

Table 3.1. Student subtasks created at EGRA tool development workshop 2017

<b>Wolof</b>	<b>Pulaar</b>	<b>Seereer</b>	<b>French</b>
Letter knowledge	Letter knowledge	Letter knowledge	
Familiar words	Familiar words	Familiar words	Familiar words
Invented words	Invented words	Invented words	
Listening comprehension	Listening comprehension	Listening comprehension	
Oral reading fluency w/ Reading comprehension	Oral reading fluency w/ Reading comprehension	Oral reading fluency w/ Reading comprehension	
Student context interview	Student context interview	Student context interview	

### 3.1 Instruments

The EGRA and SSME instruments are contained in Annex A and described below.

*EGRA instrument.* EGRA consists of a series of short individually administered subtasks that demonstrate how well children have mastered basic reading skills. The EGRA instruments developed for the baseline evaluation included five national language specific subtasks and one French subtask. The EGRA instrument in Wolof, Pulaar and Seereer each included listening comprehension; letter sounds; familiar words; invented words; and oral reading fluency and reading comprehension. In addition, the instrument in all three languages included familiar word recognition in French and a student context questionnaire. The EGRA subtasks are outlined below:

- i. Listening comprehension: This subtask assessed students' ability to listen to and comprehend a short passage in a national language read aloud to the student by the assessor. This is an untimed task so all students listened to the whole passage and were asked the maximum number of comprehension questions, which was five questions.
- ii. Letter knowledge: In this task, students were presented with 100 letters of the national language alphabet and asked to read as many letters as possible within one minute.

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Correct letter sounds or names in the national language were considered correct responses as the names and sounds of letters in these national languages do not differ according to instrument workshop participants. If students give the sounds or names that are correct in French, but not in the national language, the enumerators should give an incorrect values for those sounds.

- iii. Familiar word reading: This subtask assessed students' ability to read familiar words in a national language. This subtask relies in part on students' memory of familiar words that can be recognized by sight alone. This task is a gauge of a mixed set of early reading skills, with both decoding and knowledge of familiar words. For this subtask, students were provided with a table of 50 words in a national language and instructed to read as many as they could within one minute. The score on this task was determined by the number of correct words per minute.
- iv. Invented word or nonword reading: To be able to read fluently and with comprehension in any language, students must be able to decode unfamiliar words. Decoding unfamiliar words, or nonwords/invented words, assesses students' ability to sound out words that follow the linguistic rules of the national language, but that do not exist, thus are completely novel to the reader. This subtask requires students to sound out letters and syllables rather than rely on memory of familiar words that can be recognized by sight alone. Thus, using invented words is a purer measure of decoding skills. In this subtask, students were provided with a table of 50 made-up words and instructed to read as many as they could within one minute. The number of correct nonwords read per minute was the score for this task.
- v. Oral reading fluency: The best single measure of a child's reading proficiency in the primary grades is oral reading fluency. Oral reading measures students' ability to read a short passage with sufficient speed and accuracy to make meaning from text. It encompasses all of the previous skills plus the skills needed for comprehension of the text. Deficiencies in any of the previous skills can disrupt students' reading fluency. Hence, oral reading fluency has been shown to be a very good predictor of overall reading competence and comprehension. The oral reading subtask is a timed test. In this subtask, students were asked to read a story passage in national language within one minute. After one minute, the assessor stopped the students and recorded the number of words read correctly. If the children could not read any words correctly in the first line of the passage, the assessor stopped the test early and the child received a score of zero. Note that the number of words in the first line was different across languages. In addition, with an EGRA study, the same ORF passage is generally used across the grade

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levels in each language, with the text targeted at a second grade level. With no grade-level text leveling yet developed in these national languages in Senegal, for determining a second-grade type of text, the participants in the workshop determined this in collaboration with the USAID protocols for developing a reading passage. For this research, it is advisable not to change the measure across the grades in order to measure change over time.

- vi. Reading comprehension: Using the same reading passage as the oral reading fluency subtask, the reading comprehension questions measured students' ability to understand the story they had read aloud. This subtask is composed of five questions consisting of four direct fact-based questions and one inferential question, which required students to combine facts from the story with their own background knowledge to find a correct answer. Students were asked up to five comprehension questions depending on how much of the story they were able to read. Since the oral reading fluency is a timed task, students who did not finish the story were asked fewer than five questions. Those who could not read at all were not asked any questions. Students' reading comprehension scores represent the total number of correct responses out of a maximum of five, no matter how much of the text the student was able to read. This is the USAID approach to scoring this task, but presents a skewed view of reading comprehension in the end as many students are not reading the text at all or with sufficient speed and accuracy that would allow for comprehension.
- vii. Familiar French word reading: The last subtask of this EGRA baseline is similar to the familiar words reading task, but instead of assessing students' ability to read familiar words in a national language, it assessed the students' ability to read familiar words in French. For this subtask, students were provided with a table of 50 words in French and instructed to read as many as they could within one minute. The score on this task represents the number of correct French words per minute.
- viii. Finally, a short student context survey was administered to each child at the end of the EGRA subtasks described above.

*SSME instrument.* In addition to EGRA student subtasks and student context questions, two questionnaires were used to collect information at the school level and teacher/classroom level, respectively. A school director interview in French was designed to collect school-level information on enrollment and resources available at the school, and on the level of support provided by the school director. Teacher interviews were also administered in French to the

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first and second grade teachers of the classrooms from which students were selected. These interviews aimed to collect teacher and classroom information.

### 3.2 Training of assessors

The process to train assessors and collect the data was conceived of as technical assistance provided by Lecture Pour Tous to equip INEADE with skills and resources to train assessors and lead the data collection in the field. As such, the process included three distinct phases: a training of trainers (ToT) workshop; a training of assessors (ToA) workshop; and data collection in the six regions of Senegal that will be ultimately targeted by the program. The institution responsible for the data collection were the MEN, through INEADE, with Senegal-based Lecture Pour Tous team members providing support and oversight in-country and the EdIntersect/Lecture Pour Tous assessment experts following the data uploads in Tangerine and providing support and oversight from a distance.

### 3.3 Quality control

#### *Training of Assessors and Assessor Accuracy Measure (AAM)*

The model for training included a Training of Trainers facilitated by EdIntersect trainers in which INEADE was trained in how to train assessors for the six-region data collection for the baseline study in Senegal. Following the TOT, the Training of Assessors was then led by INEADE trainers, with EdIntersect present for technical guidance as requested. During the Training of Assessors, data for Assessor Accuracy Measure (AAM), as Inter-Rater Reliability (IRR) is called during assessor training, were collected on all EGRA subtasks. The AAM scores were then fed back and discussed with the trainees before heading to the field for data collection. The AAM could not be used in this case to select enumerators as the INEADE training management team had called to the training essentially the number of assessors needed for data collection (rather than up to 10% more than would be needed for data collection as was advised). Therefore, all assessors trained were hired and used in the data collection, with the exception of two whose performance was very low. See Senegal 2017 EGRA Training Workshop Report: Training of Trainers (ToT) and Training of Assessors (ToA) for AAM scores for assessors of each of the three language groups.

#### *Data collection and Inter-rater Reliability (IRR)*

Then, during the first week of data collection, enumerators were asked to conduct IRR during the first five days of data collection with the first student of the day. The Tangerine software was used to identify and separate the IRR data. These IRR data were coming in with quite a delay during the first week of data collection due to connection issues with data collection teams in the field and their ability to upload the data. Therefore, the data collection oversight

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team of Lecture Pour Tous did not have the IRR information to talk to individual assessors or teams about what had happened using those scores. Although this real-time use of IRR was not possible due to field issues, afterwards the data analysis team of EdIntersect examined the data. Using the metrics of Proportion of Negative Agreement (PNA)<sup>10</sup> and Proportion of Positive Agreement (PPA)<sup>11</sup>, the values fluctuate a bit more than desired, through little empirical work has been done to set an acceptable benchmark. The values for PNA and PPA need to be as high as possible in order to conclude that IRR was high. The values in this case were around 0.92 for PNA and 0.83 for PPA. In the future, the IRR system needs to be implemented with the ability to upload data and correct disagreement so as to improve student assessment skills among all of the assessors while the data collection is in process.

### *Field supervision*

Moreover, quality control was carried out in country primarily by local and international Lecture Pour Tous team members, with EdIntersect providing two days of in-person data collection field visits only in the first two days following the training. INEAD provided field supervision and oversight during the first and last week of data collection. Supervisors observed enumerators administer the EGRA to students and provided feedback and corrections at the end of the administration while on site at the schools.

## 4 Data processing and analysis

### 4.1 Population and sample size

Data were collected from 3,893 students and 350 teachers from 209 schools. These schools were located in 6 different regions (headed by Inspections d'Academie, or IA education offices) of Senegal, and 21 different departments (IEF). All 6 regions have Wolof and Pulaar students, while, for Seereer, there were no students in the regions of Louga and Matam. See the tables in Annex B for more details.

Before cleaning the data the student dataset included the following numbers per language:

Wolof Language Group: 691 Grade 1 students and 707 Grade 2 students.

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<sup>10</sup> PNA is the number of times raters agreed that students gave a wrong answer divided by the total number of wrong answers. A value of 0.90 means that 90% of the time that a student got a wrong answer, the raters both noted that the answer was wrong.

<sup>11</sup> PPA is the number of times raters agreed that students gave a correct answer divided by the total number of correct answers. A value of 0.90 means that 90% of the time that a student got a correct answer, the raters both noted that the answer was correct.

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Pulaar Language Group: 651 Grade 1 students and 689 Grade 2 students.  
Seereer Language Group: 697 Grade 1 students and 710 Grade 2 students.

A two-step cleaning process was applied to all the datasets. In the first step, data quality checks were completed, including errors in data entry on school codes, incomplete or missing reading subtask data, and duplicates due to IRR (inter-rater reliability) procedures. In the second step, remaining data were checked for lack of consistency so that cases with invalid data could be eliminated. In this step, extreme fluency scores were checked as well as very long administration times for the EGRA or odd times (e.g. 7pm in the evening) and days (e.g. Sunday) of administration. After this cleaning process, the final sample was composed of the following number of students by language group:

Wolof Language Group: 651 Grade 1 students and 687 Grade 2 students.  
Pulaar Language Group: 578 Grade 1 students and 619 Grade 2 students.  
Seereer Language Group: 656 Grade 1 students and 662 Grade 2 students.

#### 4.2 Data analysis strategy

The sample size needed for the study was established for achieving 95% confidence interval of plus or minus five points around mean oral reading fluency (ORF) scores. A sample of 688 students per grade in each language group was needed in order to reach that level of precision in the estimates of ORF scores. The three language groups were considered as three specific populations as the EGRA results for each group are not automatically comparable. Item equivalence cannot be assumed as the difficulty may vary from one language group to another on that language's version of the same subtask given that the characteristics of each national language differ, each having its own level of orthographic transparency and complexity and its own phonology as described in the second edition of the USAID EGRA Toolkit (RTI International, 2015). Given these language differences, each national language group was considered to be a specific population in the analysis of the data.

In order to achieve the goals of this study, descriptive analysis was used to produce a picture of the level of competency in reading in national language. Differences in scores by gender and region were also conducted; statistical significance was reported to identify any relevant differences. Descriptive analysis was also used with the survey questionnaires to gain insight into the educational context of each national language. Finally, correlational analysis was conducted to look for any relationships between competency in reading and contextual factors.

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To account for the nonequivalent probability sampling of schools, sample weights were created and applied to all analyses to guarantee that the sample properly represented the population of interest.

#### 4.3 Interpretation and limitations

As explained above, the EGRA instrument versions for each language were not built with an assumption of equivalence, which has been shown to be perhaps impossible to achieve for different language groups as described in the USAID EGRA Toolkit (RTI International, 2015). Any comparisons between language groups can be misleading, and this should be kept always in mind in reading this report. Dubeck and Gove (2015)<sup>12</sup> explain how developing EGRA tasks in each language is distinct and specific to that language's foundational elements, stating: "EGRA's widespread use has provided users with a shared language to describe results and monitor system-level changes, knowing that direct comparisons between contexts should be avoided (primarily due to linguistic differences)." EGRA studies that included multiple languages in both Afghanistan and Pakistan did not compare results of language groups for the same reasons about equivalency of the tests from one language to another. As such, reading researchers often prefer to use benchmarks to create categories. Some categories are more common, such as reader versus non-reader depending on what benchmark is set in each language. Others may plot them together to compare words per minute across languages, as was done with benchmarks in Uganda<sup>13</sup>.

Readers should also be aware that the EGRA instrument versions were built in order to test reading competency in national languages. At the time of the baseline study, the students had not been learning in national languages, but had been learning only in French as the reading program had not yet started in national languages. The lack of competency in reading in national languages should therefore be considered not as a deficit of the students at this point, but just as a true baseline of where their building block reading skills are before any instruction in national languages. Results from this baseline should also not be used as a quality assessment of the education system in Senegal as it does not aim to test competencies that students in the system should already have gained. Any skill demonstrated by students in their national language is likely the result of transfer from French instruction in school.

Comparisons have been conducted between regions (IA). Given the small sample at the IEF level, the design of the study does allow to identify statistical differences across IEF, unless the

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<sup>12</sup> Dubeck, M. & Gove, A. (2015). The early grade reading assessment (EGRA): Its theoretical foundation, purpose, and limitations. *International Journal of Educational Development*,

<sup>13</sup> [https://ierc-publicfiles.s3.amazonaws.com/public/resources/SHRP%20EGRA%20Briefer%202016\\_C1\\_SharEd.pdf](https://ierc-publicfiles.s3.amazonaws.com/public/resources/SHRP%20EGRA%20Briefer%202016_C1_SharEd.pdf)

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magnitude of these differences were very large. For example, mean difference on the oral reading fluency task of about 3 correct words per minute could be detected, while the mean scores are near 1 correct words per minute. It is expected that differences between IEF are not of that magnitude. Also, for some languages, the number of students by region and IEF is very unevenly distributed and some regions have a very limited number of students. This situation was caused by the distribution of schools in each language group among the six regions. As a result, geographical comparisons should be interpreted with caution.

## 5 Findings

The findings are discussed in this section in response to the research questions outlined in Section 2.1. Performance on the EGRA subtasks is discussed for each language group for Grades 1 and 2. The differences in performance between boys and girls are presented in each of those language groups. The differences in performance among geographic locations, or regions of Senegal, are also discussed by language group. Next, the main skills students were struggling with are highlighted as part of each of the language group findings. Finally, the student, teacher, and school characteristics associated with higher levels of reading skills are discussed. This section begins with an overview of the context based on the school directors and teacher questionnaires.

### 5.1 School director and teacher results

In this section, the school director and teacher survey responses are presented. The target population for collecting school data beyond the student items in each school was the school director and two teachers, one Grade 1 teacher and one Grade 2 teacher, from the same classes in which students were sampled. This target was largely reached. In 98% of schools, the survey was conducted with the school director. The deputy director answered questions in five schools in the school director's absence. Of the 350 teachers interviewed, 64 were the only teacher reached in the school, which was usually when the same teacher was responsible for both Grade 1 and Grade 2. In 141 schools, two teachers were interviewed as planned. In one school, 4 teachers were interviewed.

Nearly three-quarters of school directors were also classroom teachers, and approximately half of these taught Grade 1 or Grade 2, or both. The proportion of directors teaching was slightly greater in the Pulaar language group (81%) than in the Seereer (71%) and Wolof (67%) groups. School directors were almost all men (94%). They had been in their position as directors an average of 7 years, and been teachers an average of 11 years before assuming the role as school director. Directors in Seereer language schools had been working in their current role slightly longer (8.3 years on average).

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The majority of teachers interviewed were also men (63%). The average age of teachers in the sample was 35 years old. Teachers in Wolof areas were balanced across gender (52% women), while there were more male teachers in the Pulaar (68%) and Seereer (72%) groups. As a result of the sampling procedure, 40% of teachers taught Grade 1, 39% Grade 2, and 21% taught both Grade 1 and Grade 2. Teachers interviewed had, on average, nearly 4 years of teaching experience, ranging from 13% with one year or less, to 3% with 10 years or more.

In terms of formal education and training, directors and teachers had similar profiles. Directors in the sample had typically obtained a *Certificat d'Aptitude Professionnelle* (CAP) (87%) and completed either a *Brevet de fin d'études moyennes* BEFM (36%) or a Baccalaureate (46%) in secondary school. Directors in Wolof and Seereer schools were more likely to have their CAP (91% and 90% respectively) than their colleagues in Pulaar schools (78%), and the difference was statistically significant. Most teachers had completed either their BFEM (40%) or Baccalaureate (43%) as their highest diploma other than teacher training certification. One third of teachers reported having passed their CEAP and 54% their CAP, while 9% reported having no formal teacher certification.

Approximately half of directors reported having received in-service school management training (46%) and nearly all (95%) had been trained on teaching reading in the last 5 years. Directors in Seereer schools were more likely to report having received school management training (53% compared with 44% and 42% in Wolof and Pulaar groups). Directors were highly appreciative of both types of training, reporting satisfaction in 92% and 88% of cases respectively. Slightly fewer teachers (78%) reported receiving in-service training on reading in the previous 5 years. Teachers in Pulaar schools reported more in-service training than their colleagues (82% compared with 77% and 75%). Teachers who benefited from training were generally satisfied with it, with 16% not satisfied, 50% somewhat satisfied and 34% very satisfied.

#### 5.1.1. Absenteeism and Tardiness

Loss of instructional time is an important structural problem in many education systems. Nearly all schools (97%) reported recording teacher absences, and 86% of these were able to show records filled out daily or weekly. Directors reported being absent few days, with 33% reporting not having missed any days in the previous month and 42% having missed only 1 or 2 days. Directors reported more than 3 days absent at the following rates: in Wolof (15%), Pulaar (38%), and Seereer (21%) schools, and the difference between directors in the Pulaar group and their peers was statistically significant. Similarly, directors reported few days where schools were closed during the academic year. Nearly three quarters of schools reported 5 or fewer days missed. Nonetheless, close to 8% of schools reported having closed more than 15 days in the academic year. Schools in Wolof areas were the least likely to report more than 15 days

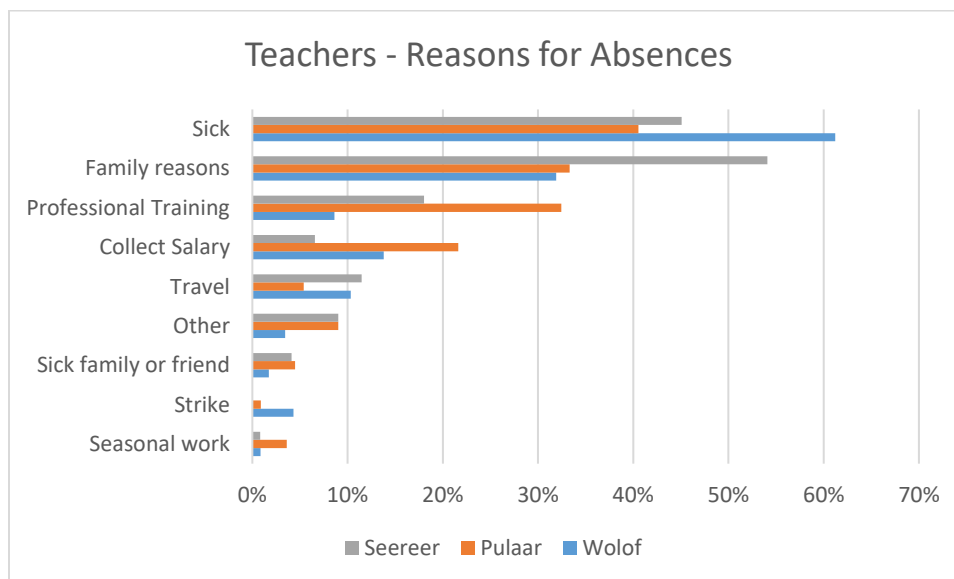
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lost (4%), compared to those in Pulaar (9%) and Seereer (10%) groups. Teachers reported a very similar number of absences, with 35% having missed zero days of school in the previous month, and 61% between 1 and 5 days. The main reasons teachers reported for being absent included being sick (49%), family reasons (40%), professional training (20%) and collecting their salary (15%). Figure 5.28 shows the range of responses provided by teachers to explain their absences. Teachers in Pulaar schools reported high levels of absenteeism to collect salary and professional development compared to their colleagues, and the differences are statistically significant. When asked about the main reason for their students' absenteeism, teachers reported health related (86%), family reasons (32%) or seasonal work (13%) the most frequently.

Figure 5.1: Reasons given by teachers for teacher absences



Slightly more than one third of directors reported Grade 1 and Grade 2 teachers arriving late on occasion. These were more frequent in Wolof (41%) and Pulaar (38%) than in Seereer (27%) schools. Figure 5.29 presents the actions taken by directors when teachers are absent. When faced with late or absent teachers in Grade 1 and Grade 2, the vast majority of schools (76%) respond by sending the Director or Deputy Director to the classroom. Students regularly lose instructional time, with 11% and 6% of schools respectively sending children home or leaving them alone in the classroom. While the three groups respond similarly overall, students in Pulaar schools are more likely to be sent home or spend the time without a teacher in the

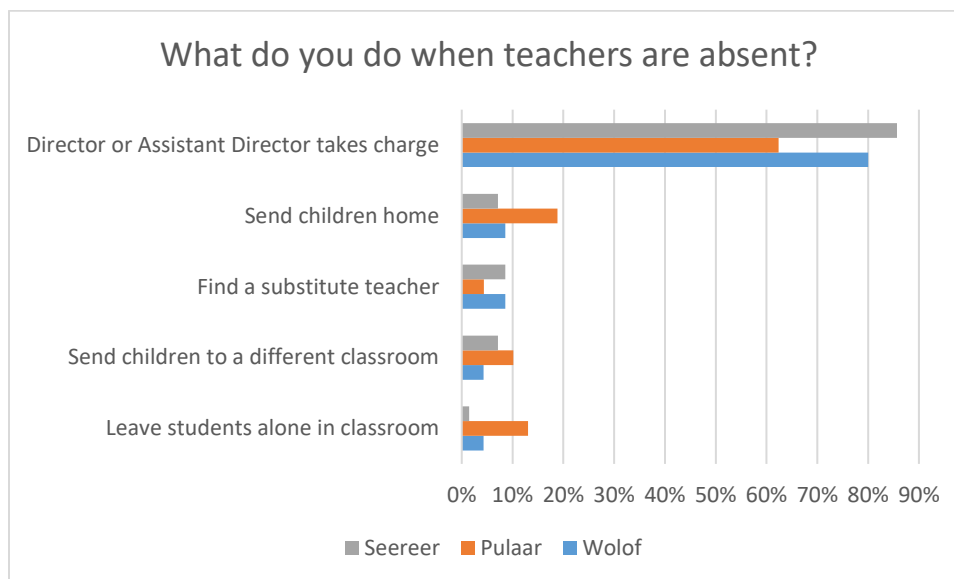
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classroom (30% of Pulaar schools used one of these approaches compared with 10% in the other two groups, and the differences in statistically significant). Nearly all schools (97%) reported providing teachers with the possibility to make up lost teaching hours.

Figure 5.2 Reported actions of schools when teacher is absent



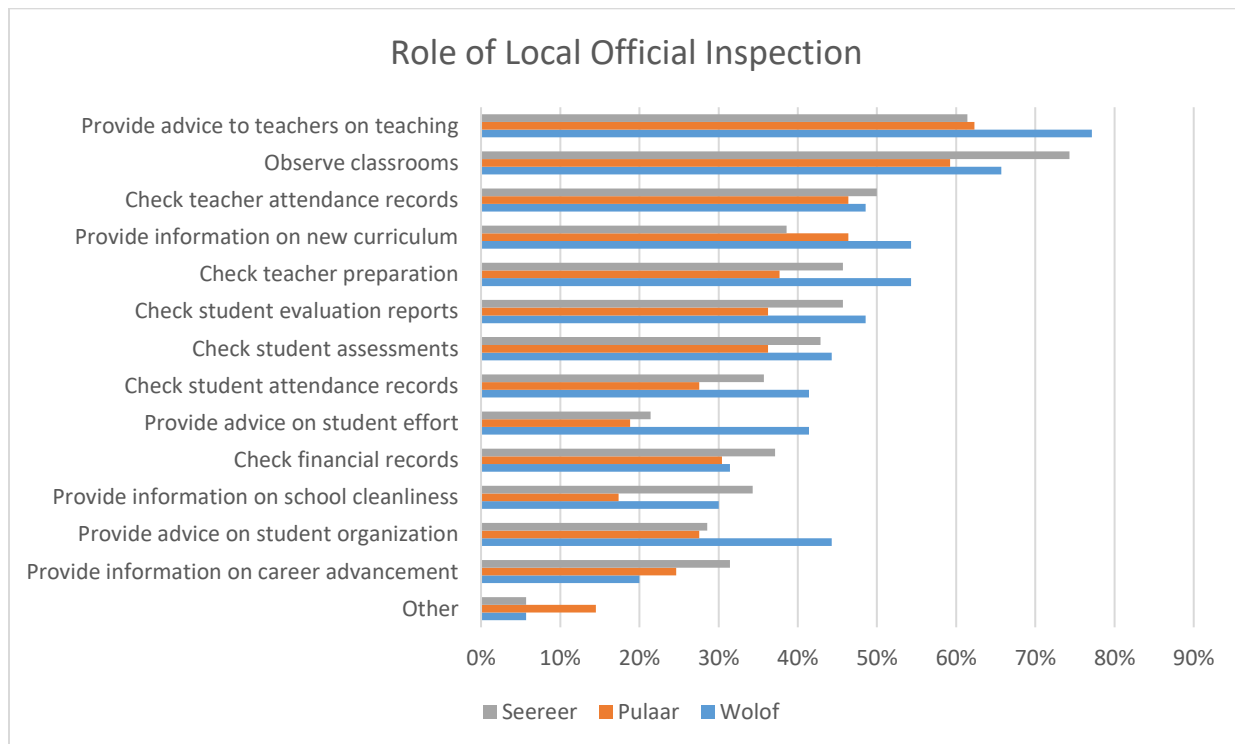
### 5.1.2 Support and Supervision

Directors and regional education officials have an important role in supporting teachers. Nearly all directors reported checking lesson plans daily (88%) or weekly (7%). Directors in Seereer schools reported slightly more frequent checks, with 99% conducting them daily or weekly. Similarly, 95% of directors reported observing lessons, with the majority (56%) doing so daily or weekly, and 38% monthly. Again, directors in Seereer schools reported slightly more frequent observations (only 3% reported less than monthly observations compared to 6% in Wolof and 11% in Pulaar schools). Over three-quarters of schools had been visited by an education official for inspection in the current academic school year, with schools in the Pulaar group reporting the highest level of inspection (80%). The main role of inspectors in the school was pedagogical support with two-thirds of directors reporting the inspection included observing classrooms and providing advice to teachers. Figure 5.30 shows the range of other roles taken on by local officials during school visits.

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Figure 5.3: Roles taken by inspectors during school visits



### 5.1.3 Teacher expectations and student learning

The majority of teachers in the sample expect their students to develop basic reading skills in the first two years of school. Figures 5.31, 5.32 and 5.33 display the year in which teachers from the three language groups expect students to develop five reading skills in French: letter knowledge, oral comprehension, word decoding, oral reading fluency, and reading comprehension of basic texts. These figures show nearly all teachers expect students to decode within the first two years. Most teachers expect students to develop oral and reading comprehension in these two years as well, but approximately 25% of teachers expect students to develop these skills later. When asked whether the expectation should be the same in a national language, 49% said they expected the same, 40% did not, and 11% reported not knowing. In the figures below, CI is Grade 1 and CP is Grade 2 as in the rest of this report, but in this case, CE1 (Grade 3) and CE2 (Grade 4) as choices on these items are also included.

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Figure 5.4: Teacher expectations in Wolof language group of students' reading skills development

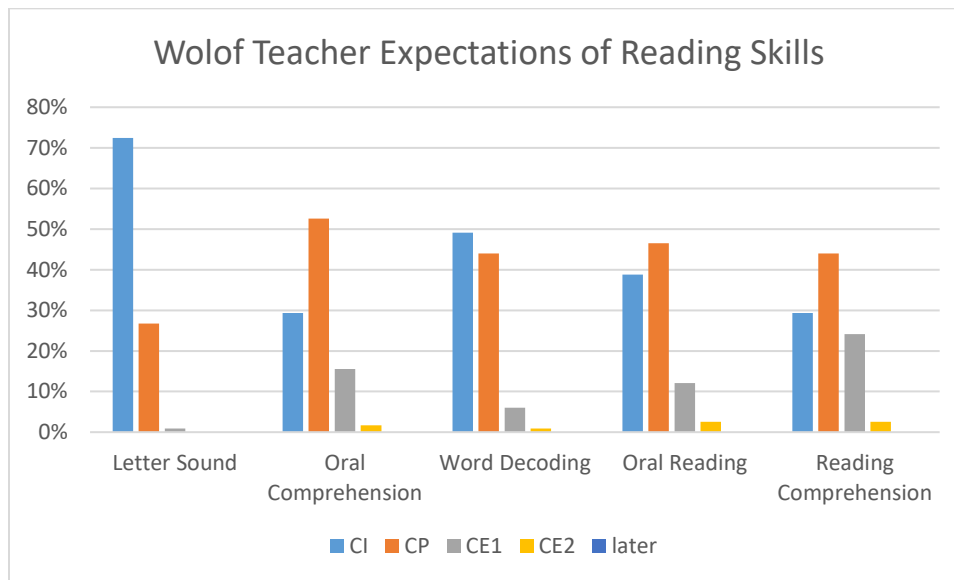
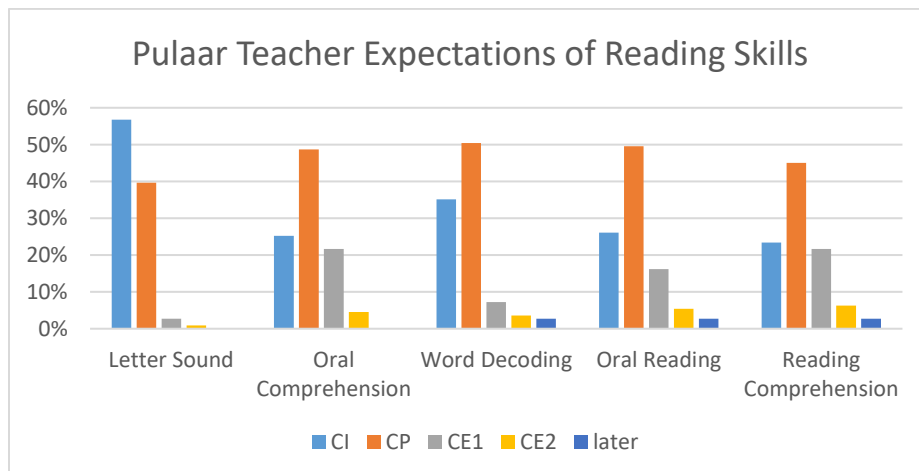


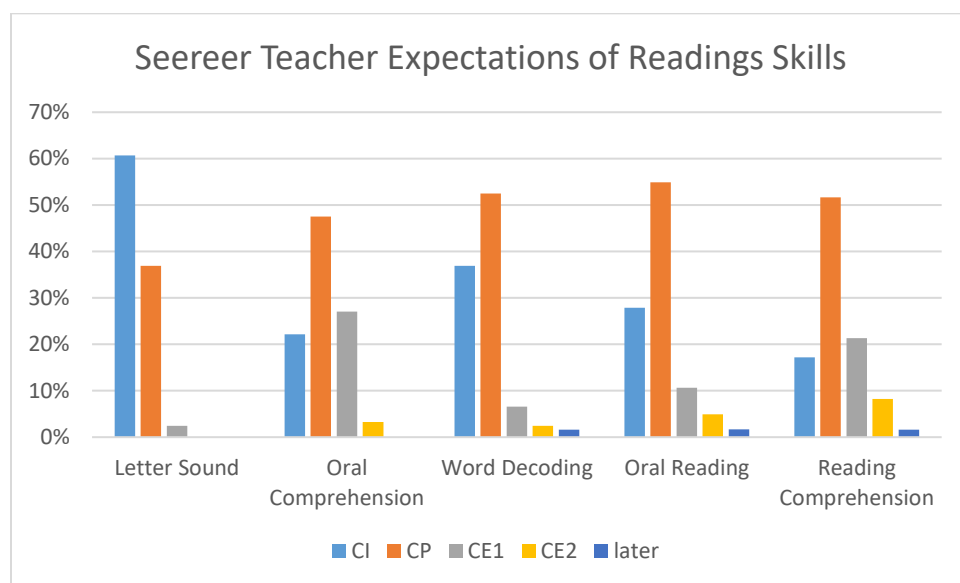
Figure 5.5: Teacher expectations in Pulaar language group of students' reading skills development



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Figure 5.6: Teacher expectations in Seereer language group of students' reading skills development

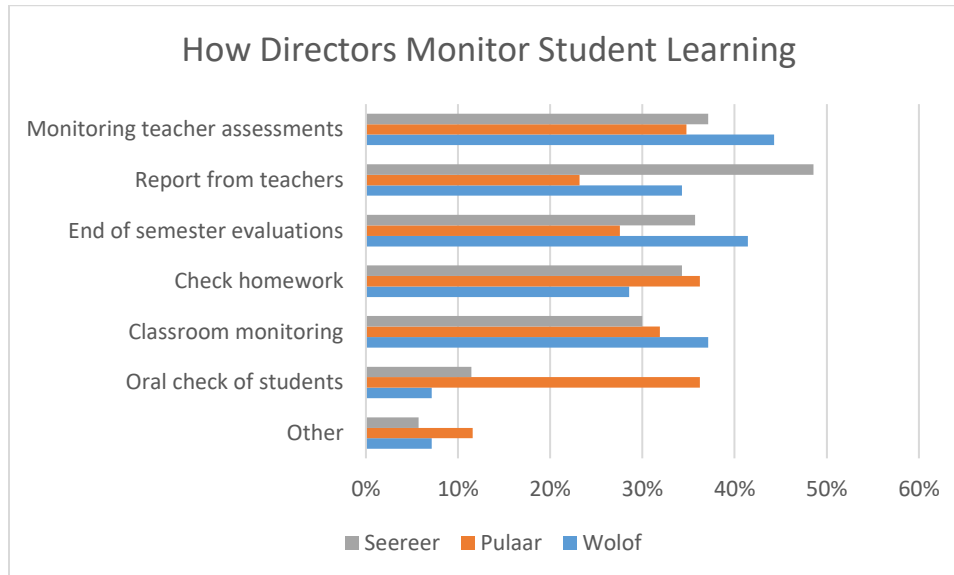


School directors reported using a wide range of options to monitor student learning, with no clear preference for one method. Figure 5.7 shows that at least one third of directors reported monitoring teacher assessments, classrooms, looking at evaluations or reports, or checking students' homework. Directors in the Pulaar language group were more likely to report checking student learning through direct assessment and less likely to use teacher reports.

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Figure 5.7: Reported methods of monitoring student learning by school directors

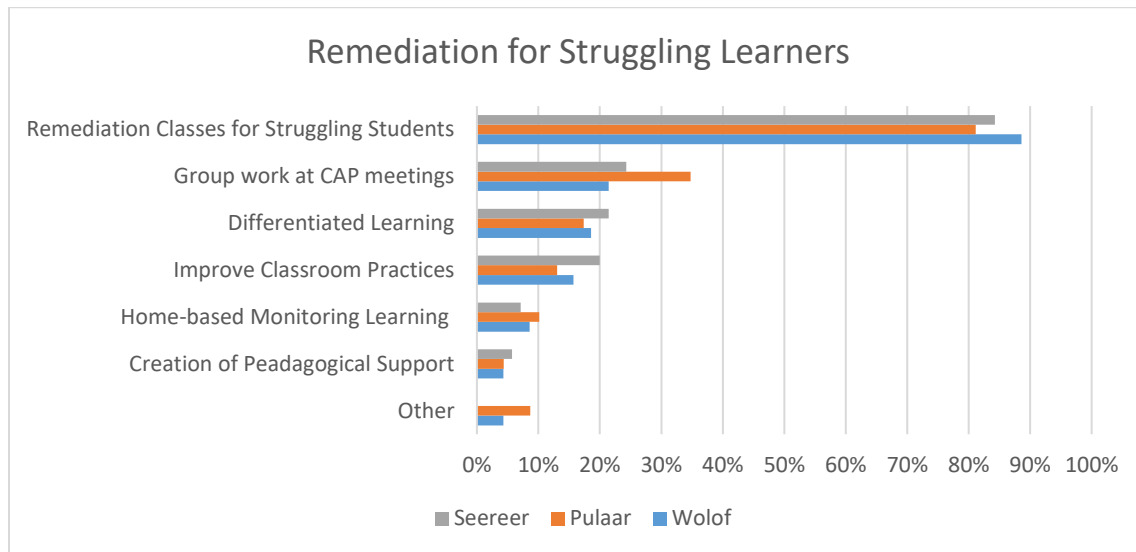


In contrast, the response by schools to struggling students was much more homogenous. Nearly all schools (93%) reported having developed a plan for remediation, and 85% of schools included additional classes for struggling students. Group work during in-service training (27%) and differentiated learning (19%) were also common responses. Figure 5.35 reports the range of responses.

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Figure 5.8: Reported methods of helping struggling learners by school directors



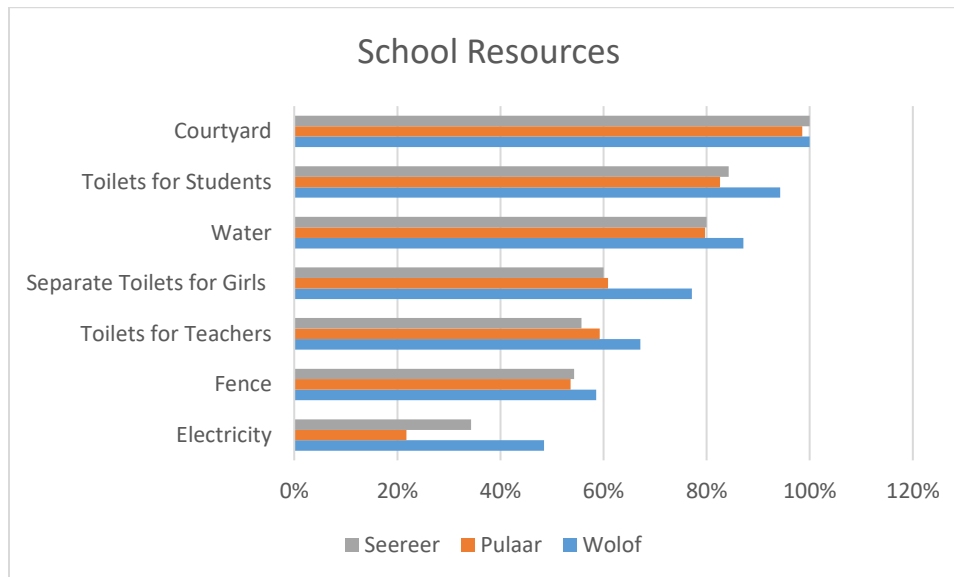
#### 5.1.4 Learning Environment

Students in the sample largely attended rural schools (88%). Schools in the Wolof group were least likely to be in rural areas (76%) compared to those in the Pulaar (91%) and Seereer (97%) groups. The average enrollment reported by teachers was 42 students (40, 39, and 45 in Wolof, Pulaar and Seereer schools respectively). This average conceals a wide range, including very small classrooms, the smallest with 5 students, and some as large as 165 students enrolled. School amenities varied across schools, with over 80% of schools having access to potable water and functioning toilets for students, but only 35% with electricity, and two-thirds with separate toilets for girls. Figure 5.36 shows the proportion of schools with a range of amenities. As expected, schools in the Wolof group were more likely to have amenities prevalent in urban areas such as electricity and water.

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Figure 5.9: School resources



The availability of books for teachers and students is critical to learning. Over 60% of schools reported having a textbook for every child at the beginning of the school year, and nearly two-thirds of the rest had received textbooks within the first trimester. Nevertheless, 17% of schools still had not received sufficient textbooks by the time of the survey. Schools in the Wolof group were more likely to report having the necessary books at the beginning of the year (66%), but they were also more likely to report not having received the books (21%). Almost all schools reported letting students take books home (95%), and 20% of schools had libraries. Schools in the Pulaar group were least likely to have a library (6%).

Most teachers reported having the necessary textbooks for the grade level they teach. Teachers in Grade 1 and Grade 2 reported having the current reading textbook in French (72% and 86% respectively) and math workbook (62% and 66% respectively). Almost all teachers (95%) reported having a teacher's guide for reading in French, although not necessarily for the grade they currently teach. Most teachers found this guide very useful (54%), 34% somewhat useful, and only 7% not useful. Very few teachers report having reading materials in a national language, which is perhaps not surprising given this data was collected before the national reading program started.

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Slightly more than a quarter of schools (27%) reported security issues, the vast majority of which were theft (41%) or sabotage (61%). A small number of schools reported violence against a student (3%) or a teacher (3%).

### 5.1.5 School Management and Community

According to Senegalese policy, the responsibility of school management is shared between the school administration and community through a School Management Committee or *Comité de Gestion d'Ecole* (CGE) and a Parent Association (APE). All schools reported having a CGE, and 94% reported also having an APE. While satisfaction of the contribution made by the CGE was 88%, slightly more than a quarter of directors (26%) reported not being satisfied with the APE's contribution. The roles and responsibilities of the CGE are clearly defined at the national level in a 2015 decree and its goal is to "improve the quality of teaching, the school environment, provide equitable access to school and have an efficient and participatory management of the school"<sup>14</sup>. In practice, directors reported a range of responsibilities for the CGE and APE in the management of their school. Figures 5.37 and 5.38 show the proportion of schools reporting a range of responsibilities taken by the CGE and APE respectively. The most common responsibilities of CGE included evaluating the budget (63%) and discussing school management (59%). Managing resources such as textbooks and discussing student-related problems were also frequent responses. Overall, the APE has fewer responsibilities, and its most common responsibility is discussing student-related problems (50%).

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<sup>14</sup> <http://www.jo.gouv.sn/spip.php?article10349>

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Figure 5.10: Responsibilities reported for School Management Committees by school directors

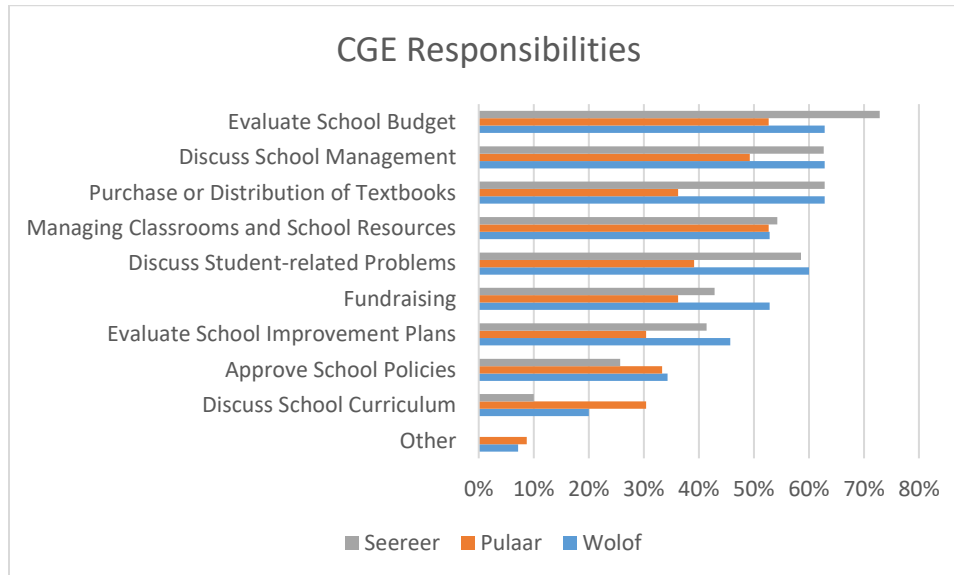
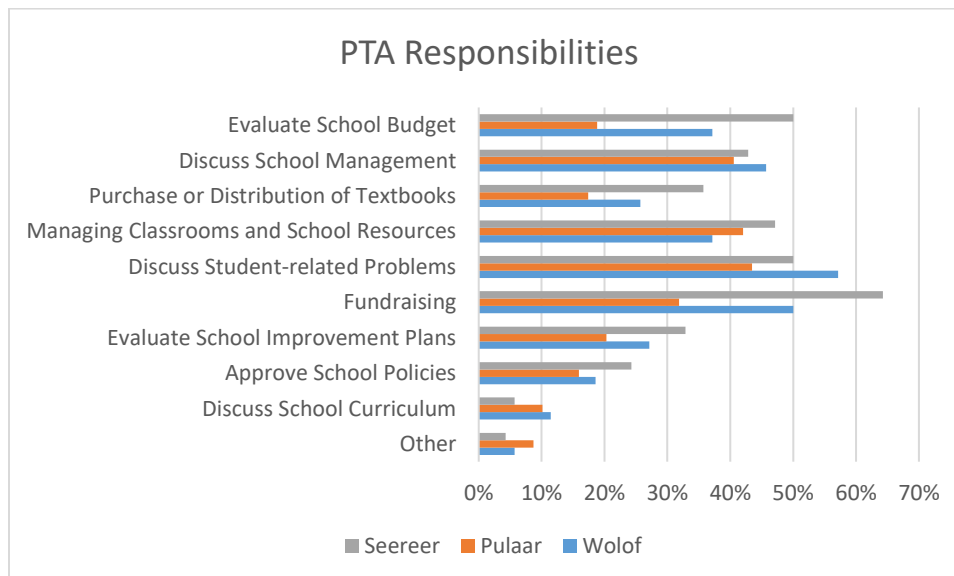


Figure 5.11: Responsibilities reported for Parent-Teacher Associations by school directors



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Nearly all teachers report meeting with parents (89%), with the majority reporting one meeting or less per trimester, and 28% reporting monthly meetings with parents.

### 5.1.6 Early Reading Program in National Languages

At the time of data collection, the new national language reading program had not been widely publicized, and had not been officially launched. As a result, not all respondents were aware of the Senegalese plan to introduce national languages in the early grades. Only 36% of directors were well aware of the program, while 40% had heard some mention of the policy, and 23% had never heard of it. Similarly, 35% of teachers knew about the upcoming policy, with 34% having heard some mention of it, and 31% having never heard of it. There were only small differences across the three groups.

Whether or not respondents had heard of the upcoming policy, their support for the use of national languages for instruction in the early years was evident. When asked about their view of such a policy, 74% of directors responded as being in total agreement and 15% in agreement, compared with 11% in total disagreement. Similarly, 67% of teachers responded as being in total agreement and 28% in agreement, compared with 5% in disagreement or total disagreement.

Despite their support for a policy inclusive of national languages, teachers reported lower levels of confidence in their literacy skills in these languages. Table 5.27 reports the average level of confidence teachers reported in reading, writing, speaking and oral comprehension in French and national languages on a scale from 1 to 10. While teachers report high levels of confidence in their literacy skills in French, they demonstrate some reservation in their knowledge of the national language spoken in the school where they work (which was the one being used to test students in this baseline study). While the reason for these lower levels of confidence cannot be explained by these data, the table suggests teachers will need support in their language skills, especially in reading and writing.

Table 5.1: Teachers' level of confidence in their skills in a national language

	Wolof Group		Pulaar Group		Seereer Group	
	Wolof	French	Pulaar	French	Seereer	French
<b>Reading</b>	5.3	9.5	6.5	9.2	6.3	9.2
<b>Writing</b>	4.6	9.5	5.6	9.3	4.8	9.2
<b>Speaking</b>	7.6	9.3	6.8	9.5	7.3	9
<b>Oral Comprehension</b>	7.4	9.5	7.2	9.1	7.4	8.9

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## 5.2 Student Context Results

After the administration of the EGRA reading subtasks, students were asked some questions about contextual factors such as language at home, with friends or with teachers, reading materials at home, literacy of family members, and school context. This section presents descriptive analysis of the answers given by students and provides additional information about factors that could affect student performance on reading tasks.

### 5.2.1 Wolof students

#### *Linguistic context*

While 82% of Wolof students spoke Wolof at home, 91.3% spoke Wolof with friends and 69.7% have spoken Wolof with a teacher at school. Two thirds of the students (67.3%) have something to read at home but most of this reading material is not in Wolof. Only 8.4% of the students report they have something to read at home in Wolof. The same situation is observed at school where only 4.5% of the students said they had reading materials in Wolof. Most of the students (84.3%) who reported watching television watch in Wolof. Finally, about half of the students said that there are signs in the street that they can read and only 13.5% reported that the writing is in Wolof.

#### *Family literacy*

More than two thirds of the Wolof students declared that both their parents cannot read while 14.1% said that their mother and father are able to read. A large proportion of students (86.0%) declared that their brother or sister can read.

#### *School context*

Only 24.4% of Wolof students reported going to preschool before beginning school; 53.4% have been to a Koranic school and 29.9% in a daara school before going to school. Most of the students (85.7%) reported that they have homework to do and 88.9% of those students said that they have someone at home who can help them with their homework. Finally, 26.8% of the students reported that they had missed school for more than one week in the current school year.

### 5.2.2 Pulaar students

#### *Linguistic context*

Almost all Pulaar students (96.3%) stated that they spoke Pulaar at home and 93.6% with friends. In school, only 38.7% reported that they spoke Pulaar with their teacher. Almost two

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thirds (61.7%) of the Pulaar students reported having something to read at home and only 12.1% of those students stated that the reading material at home was in Pulaar. The same condition is observed at school where only 17.7% of the reading material is in Pulaar. Two thirds (66.9%) of the students watch television and 31.3% of those students watch it in Pulaar. Finally, only 22.1% of the students said that they could read something written in Pulaar on the streets where they lived.

### *Family literacy*

A majority of students (88.7%) reported that neither of their parents could read and only 1.2% report that both their mother and father can read. Lastly, 76.0% of the students report that their sister or brother can read.

### *School context*

Preschool was attended by 23.1% of the Pulaar students; half went to Koranic school and 19.6% daara school. Most of the students (75.5%) reported that their teacher gives them homework to do and 86.9% of the students who have homework reported that someone at home can help them. Finally, 20.9% of the students reported that they have missed school for more than one week during the school year.

## 5.2.3 Seereer students

### *Linguistic context*

Seereer is spoken at home by 92.4% of the Seereer students and 89.9% report that they spoke this language with friends. At school, 42.7% said that they spoke Seereer with their teacher. A large proportion (70.9%) of students reported having something to read at home, but only 12.5% of those students said that the reading material is in Seereer. Just 9.2% said that any reading material at school is in Seereer. Seereer language is also not frequently reported to be on television or in the street, with only 22.3% of the students who watch television watching in Seereer and only 18.6% of the students reporting that there is something in Seereer to read on the streets.

### *Family literacy*

Only 10.2% of the students said that both their parents can read, while 72.8% reported that neither can read. A brother or sister is reported to be able to read by 88.0% of the respondents.

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### *School context*

A proportion of 33.4% of the students reported that they had attended preschool; 49.9% said that they had gone to Koranic school and 7.9% to a *daara* school. In terms of homework, 76.7% of the students said they had homework and most students who reported homework said that someone at home can help them. Lastly, 18.9% reported that they had missed school for more than one week.

### 5.3 Student reading results

This section presents summary scores for all EGRA subtasks by language. Mean scores are provided for the overall population and for each gender. The subsequent sections provide distributions of scores by subtask. The terms Grade 1 and Grade 2 are used in the narrative, but the terms CI and CP may also appear in visual representations, as these are the terms for Grade 1 and Grade 2 in Senegal.

#### 5.3.1 Summary of EGRA scores in Wolof Language Group

The Wolof sample was made up of 651 Grade 1 students and 687 Grade 2 students. There were students from all six regions of the baseline study in the sample. The distribution of Grade 1 and Grade 2 students among the six regions was the following:

Diourbel: 100 Grade 1 and 100 Grade 2  
Fatick: 74 Grade 1 and 75 Grade 2  
Kaffrine: 132 Grade 1 and 136 Grade 2  
Kaolack: 139 Grade 1 and 150 Grade 2  
Louga: 141 Grade 1 and 148 Grade 2  
Matam: 65 Grade 1 and 78 Grade 2

The EGRA results shown in Table 5.1 indicate that the overall scores were very low across all EGRA subtasks especially for word- and text-level tasks, except for listening comprehension. For this task, students in Grade 1 were able to give an average of 3.32 correct answers out of five questions and in Grade 2 the mean score is 3.77. This means that Grade 1 students on average were able to answer 64% of the comprehension questions on a text read to them and Grade 2 students 75%. Student performance on this task demonstrates that students have receptive vocabulary in Wolof, which is an important ingredient for building early reading skills in the language.

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Table 5.2: Summary of EGRA scores in Wolof language group

Subtask	Grade 1	Grade 2
Listening comprehension – Correct questions	3.32	3.77
Letter knowledge – Correct letters per minute	5.38	12.29
Familiar word reading – Correct words per minute	0.65	2.89
Invented word decoding – Correct invented words per minute	0.59	2.52
Oral reading fluency – Correct connected words per minute	0.70	3.43
Reading comprehension – Correct questions	0.09	0.39
French familiar word reading – Correct words per minute	2.19	10.24

In order to decode and read fluently, students must be able to identify correct letter sounds. Grade 1 students were able to identify an average of 5.38 letter sounds correctly in one minute while performance is better for Grade 2 students with a mean of 12.29 letters per minute. Student performance in reading familiar words was similar to their performance in decoding invented words. The limited knowledge of letter sounds contributed to low scores in familiar word reading, invented word decoding, and oral reading fluency. Students' inability to read the text passage fluently resulted in low reading comprehension scores as well. Since students read on average less than one word correctly in Grade 1 and less than four words correctly in Grade 2, it is not surprising that, on average, students were able to answer fewer than one reading comprehension question correctly. They would be asked just one of the five comprehension questions on average since students are posed the reading comprehension questions in relation to how far they were able to read in the text passage. In reading French familiar words, students in Grade 1 and Grade 2 performed better than in reading Wolof words, which is to be expected at this point as the early reading instruction in national languages had not been rolled out yet at the time of this baseline study. Finally, as expected, students in Grade 2 have higher mean scores across all subtasks than those in Grade 1. However, it is important to note the low level of reading of French familiar words especially as all instruction in these schools was being done in French at the time of this baseline.

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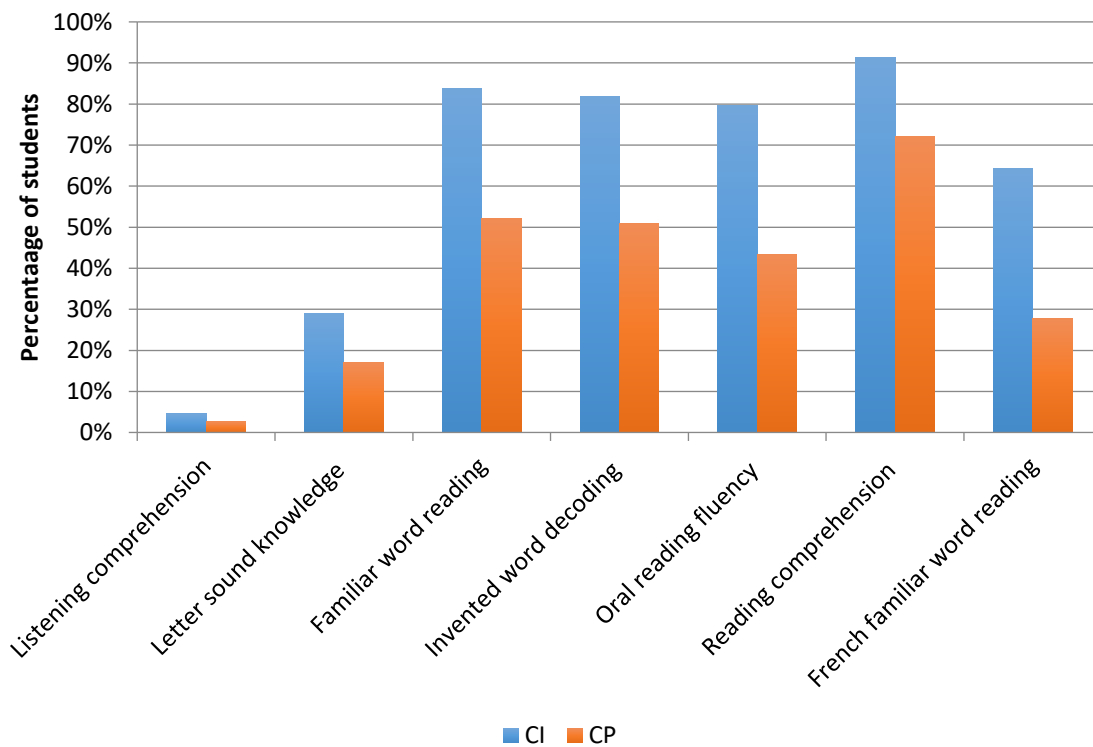
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## Overall Zero Scores

Figure 5.1 shows the percentage of students who scored zero on each subtask in Grade 1 and Grade 2. The highest percentage of zero scores was for reading comprehension while the lowest percentages were for listening comprehension and letter knowledge. The percentage of zero scores was high, with similar results for familiar word reading, decoding invented words, and oral reading fluency. More students were unable to read familiar French words than those who were unable to perform on listening comprehension and letter knowledge. For all tasks, percentages of zero scores were lower for Grade 2 students than for Grade 1 students. This difference in zero scores from Grade 1 to Grade 2 is more marked for French familiar words reading (64% in Grade 1 and 28% in Grade 2) than for other tasks.

Figure 5.12: Percentage of students scoring zero on all subtasks by grade



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## EGRA Scores by Gender in Wolof Language Group

For all subtasks, differences between boys and girls are rather small in Grade 1 and in Grade 2 as seen in Table 5.2 below, and none are statistically significant. For most of the tasks, boys outperform girls but again, the differences are not statistically significant.

Table 5.3: EGRA scores by gender in Wolof Language Group

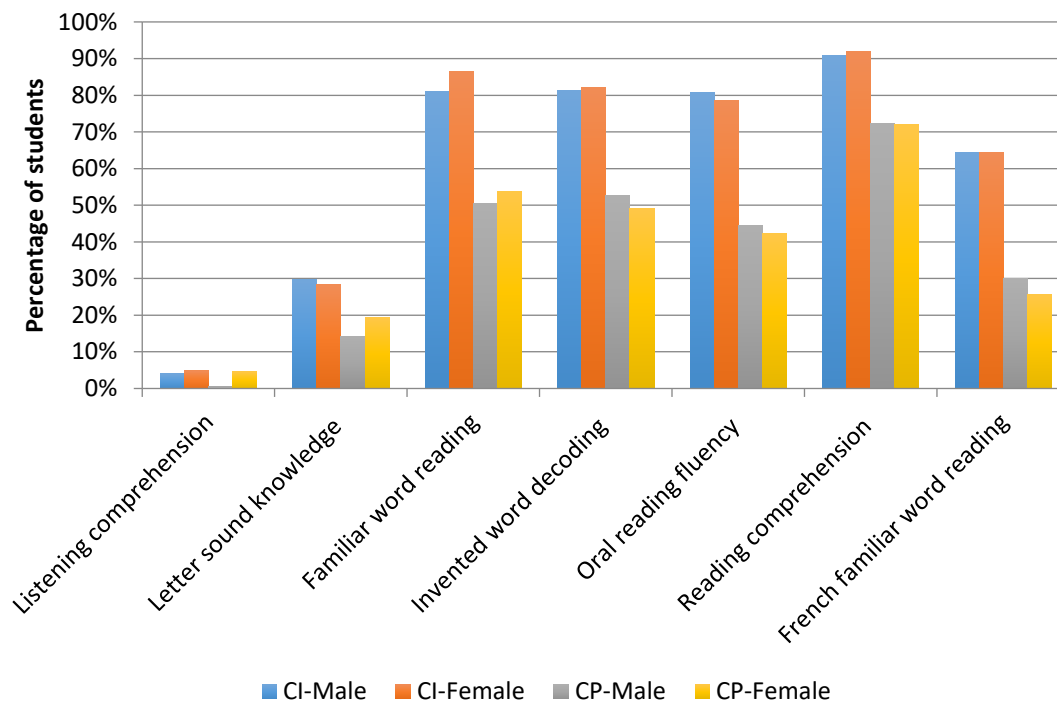
Subtask	Grade 1		Grade 2	
	Male	Female	Male	Female
Listening comprehension – Correct questions	3.42	3.22	3.93	3.63
Letter knowledge – Correct letters per minute	5.25	5.49	12.45	12.15
Familiar word reading – Correct words per minute	0.75	0.56	3.06	2.76
Invented word decoding – Correct invented words per minute	0.64	0.55	2.54	2.50
Oral reading fluency – Correct connected words per minute	0.80	0.60	3.59	3.29
Reading comprehension – Correct questions	0.10	0.09	0.39	0.40
French familiar word reading – Correct words per minute	2.32	2.06	10.02	10.43

Zero scores presented in Figure 5.13 below lead to the same conclusion, there were no marked differences between the performance of boys and girls in Wolof and no differences were statistically significant.

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Figure 5.13: Percentage of zero scores by gender in Wolof language group



### EGRA scores by region in Wolof language group

All six regions of the study had schools in which Wolof would be the national language taught in the upcoming national reading program because it is the majority mother tongue language among students at such schools. As seen in Table 5.4 below, in listening comprehension, students from Matam showed statistically significant differences with other regions. They have a lower performance compared to students from other regions. On the other hand, they outperformed students from other regions in all other subtasks, except for the oral reading fluency subtask and reading comprehension for Grade 2 students as seen in Table 5.5 below.

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Table 5.4: EGRA scores by region for Grade I students in Wolof language group

Subtask	Diourbel	Fatick	Kaffrine	Kaolack	Louga	Matam
Listening comprehension – Correct questions*	3.51	3.92	3.35	3.23	3.46	2.15
Letter knowledge – Correct letters per minute*	4.75	5.01	3.85	5.47	6.09	8.11
Familiar word reading – Correct words per minute*	0.52	0.42	0.45	0.76	0.52	1.55
Invented word decoding – Correct invented words per minute*	0.60	0.55	0.36	0.56	0.54	1.29
Oral reading fluency – Correct connected words per minute	0.93	0.77	0.27	0.68	0.58	1.42
Reading comprehension – Correct questions	0.13	0.11	0.05	0.09	0.06	0.20
French familiar word reading – Correct words per minute*	2.82	1.58	0.77	2.14	2.52	4.15

\*Differences between regions are statistically significant

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Table 5.5: EGRA scores by region for Grade 2 students in Wolof language group

Subtask	Diourbel	Fatick	Kaffrine	Kaolack	Louga	Matam
Listening comprehension – Correct questions*	4.13	4.13	3.76	3.76	3.87	2.85
Letter knowledge – Correct letters per minute*	11.97	9.59	11.17	14.79	11.73	13.54
Familiar word reading – Correct words per minute*	3.08	2.69	2.16	3.65	1.81	4.77
Invented word decoding – Correct invented words per minute*	2.35	2.24	1.94	3.01	2.21	3.68
Oral reading fluency – Correct connected words per minute	4.27	2.67	2.34	3.77	3.66	3.92
Reading comprehension – Correct questions	0.43	0.45	0.31	0.49	0.38	0.26
French familiar word reading – Correct words per minute*	12.37	9.28	5.96	12.14	9.95	12.77

\*Differences between regions are statistically significant

### 5.3.2 EGRA results by subtask in Wolof language group

#### *Listening Comprehension*

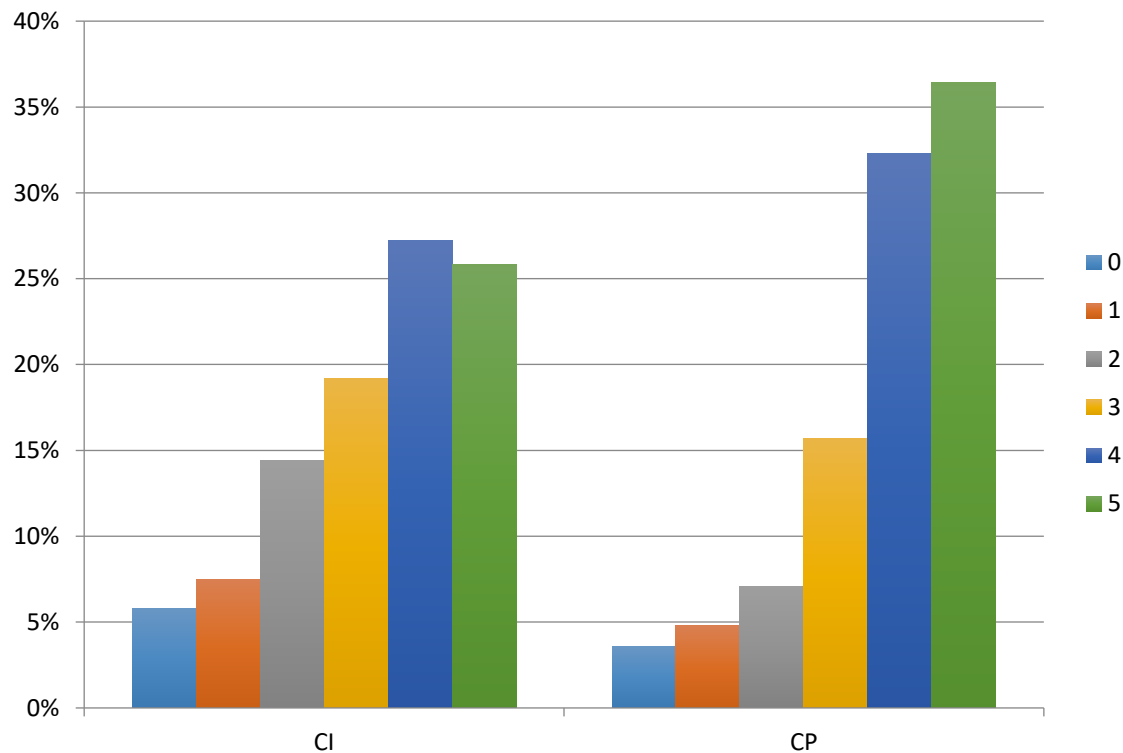
As demonstrated in Figure 5.3, the results on the listening comprehension subtask in Wolof showed adequate comprehension of the language when listening to a story in both Grade 1 and Grade 2. In Grade 1, more than half (53%) of the students could provide 80% of correct answers on the questions they answered about the story they were read by the assessor, while in Grade 2 this proportion is 70% of students providing 80% correct answers to the questions posed. The percentage of students with zero comprehension in response to the questions was

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very low compared to scores on other subtasks, with 5.8% of students in Grade 1 with zero scores and 3.6% in Grade 2.

Figure 5.14: Percentage of students responding correctly to 0-5 listening comprehension questions by grade



### Letter knowledge

Table 5.4 shows that Grade 1 students attempted an average of 21.51 letter sounds, while this average is 29.75 for the Grade 2 students. Figure 5.4 presents the distribution of fluency rate by grade. Distribution for Grade 1 shows a significant floor effect<sup>15</sup> as can be seen by the large proportion of students with zero scores (28.9%). This effect is less marked in Grade 2 because the proportion of students with zero scores was lower (17%). The figure also shows that few students scored higher than 40 letters per minute.

<sup>15</sup>A floor effect occurs when a measure possesses a distinct lower limit for potential responses (like 0) and a large concentration of participants score at or near this limit.

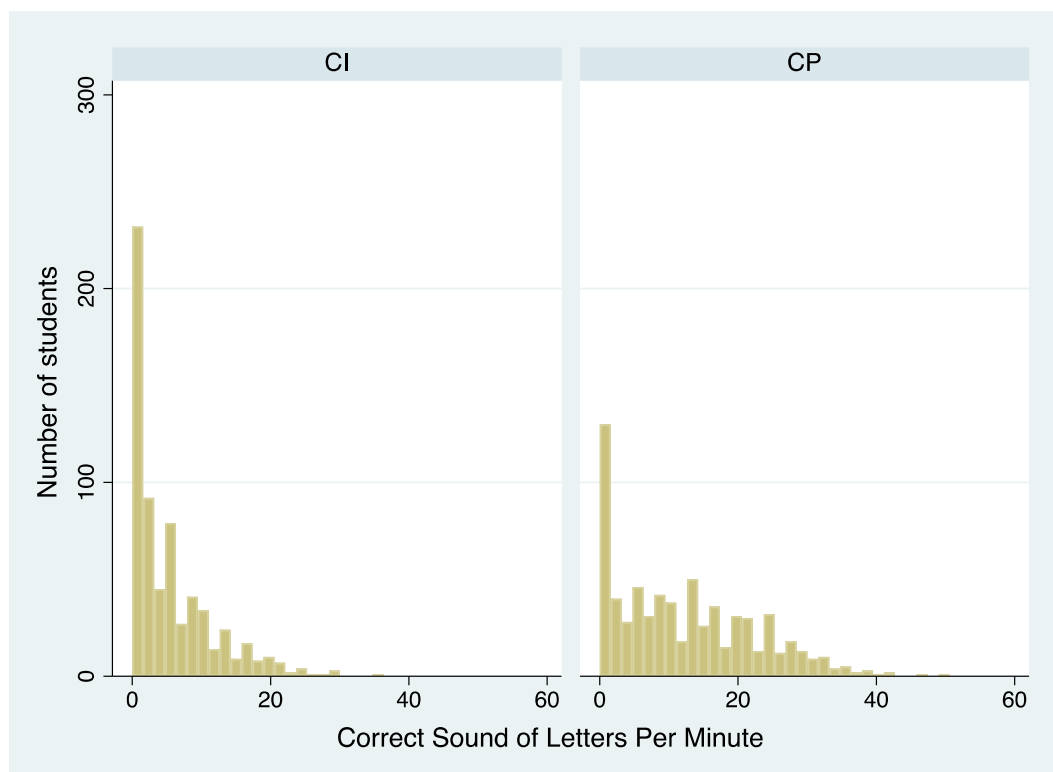
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Table 5.5: Number of letters attempted by grade

Level	N	Mean	SD	Min – Max
Grade 1	651	21.51	11.97	5 – 80
Grade 2	687	29.75	14.09	10 – 81

Figure 5.15: Distribution of number of correct letter sounds per minute by grade



### Familiar Word Reading

Table 5.5 shows that Grade 1 students attempted to read an average of 7.35 words per minute, while the average was 12.98 for Grade 2 students. Since an automatic stop is built into the task when students are unable to read any of the first 5 words (which is the first line on the student stimulus) correctly, it could be stated that, on average, Grade 1 students were not able to attempt many words beyond the first line of words on this task. Figure 5.5 presents a distribution of fluency scores for this task with significant floor effects for both Grade 1 and

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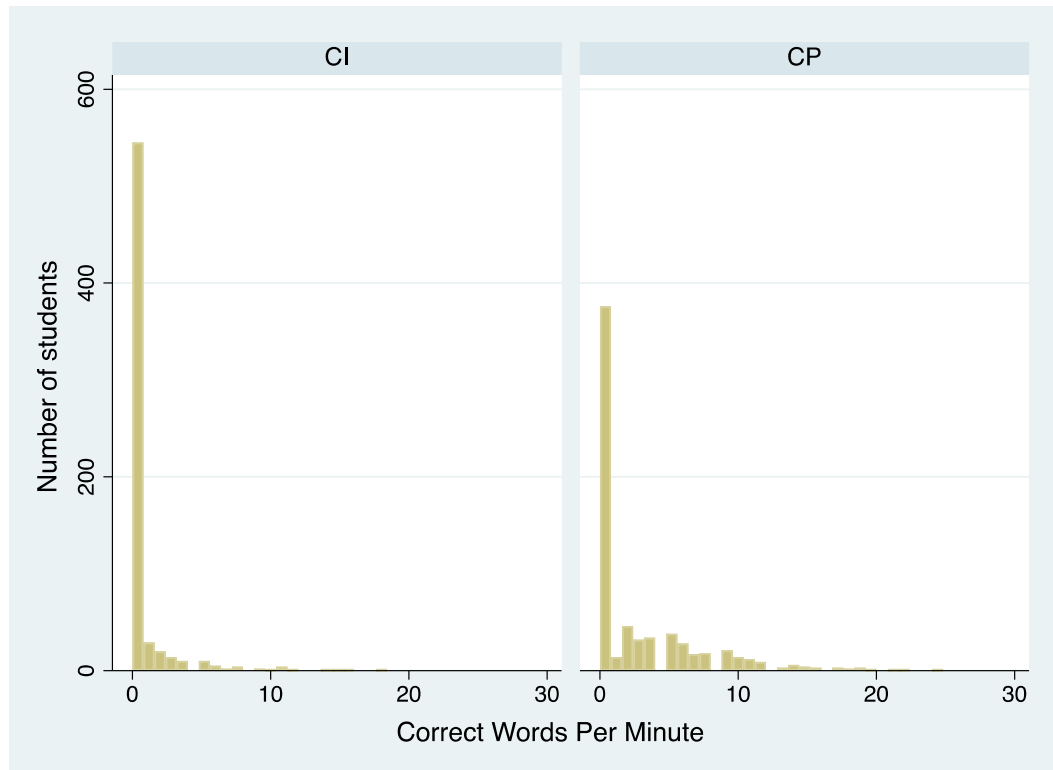


Grade 2 students. For this task, 83.9% of the Grade 1 students and 52.2% of the Grade 2 students were unable to read a single word correctly. The students with the highest scores were able to read about 20 words correctly per minute.

Table 5.6: Number of familiar words in Wolof attempted by grade

Level	N	Mean	SD <sup>16</sup>	Min – Max
Grade 1	651	7.35	5.99	5 – 46
Grade 2	687	12.98	10.11	5 -50

Figure 5.16: Distribution of number of correct words per minute by grade



### *Invented Word Decoding*

<sup>16</sup> SD or standard deviation is used to quantify the amount of variation of a set of data values. A low standard deviation indicates that the data points tend to be close to the [mean](#), while a high standard deviation indicates that the data points are spread out over a wider range of values.

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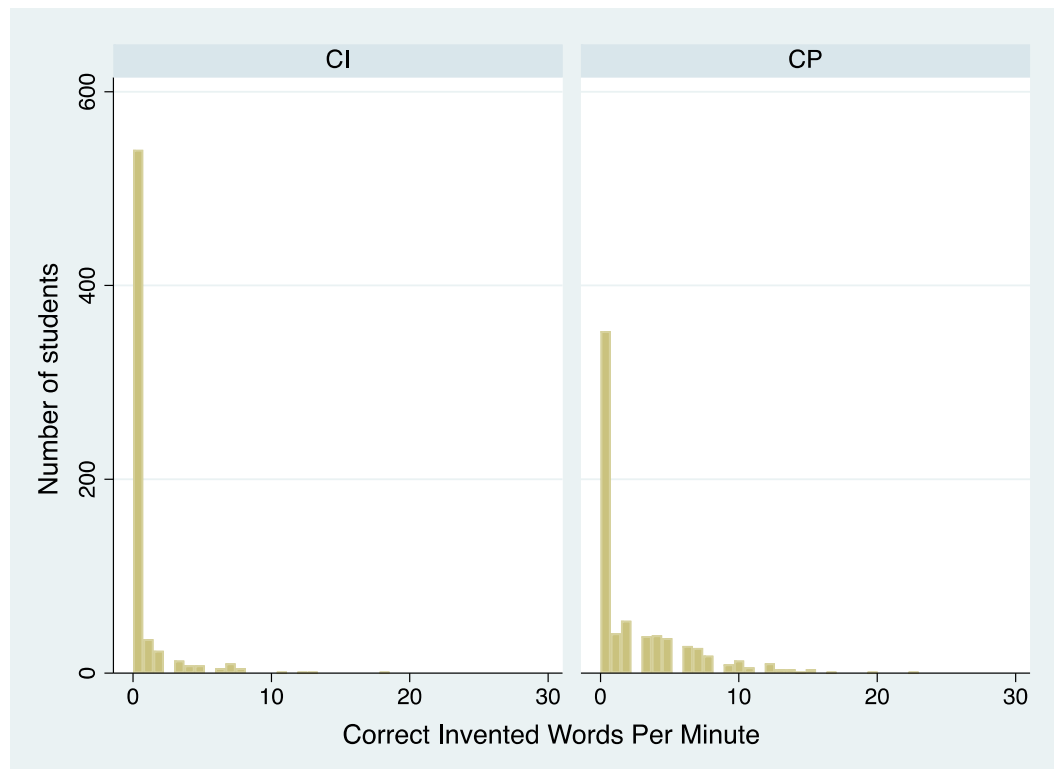


As presented in Table 5.6, the average number of invented word (non-words) attempted by students is similar to what is observed for the familiar Wolof words. Grade 1 students have more problems with this task than Grade 2 students; 81.8% of Grade 1 students scored zero on this task, while 50.8% of Grade 2 students scored zero. The distributional graphs presented in Figure 5.6 show a similar shape as those for familiar Wolof words. The highest-scoring students could decode up to 20 words per minute. Most of the Grade 2 students did not score higher than 10 words in one minute on this task.

Table 5.7: Number of words attempted by grade

Level	N	Mean	SD	Min - Max
Grade 1	651	7.43	6.10	5 – 44
Grade 2	687	13.29	10.02	5 – 50

Figure 5.17: Distribution of number of correct invented words per minute



*Oral Reading Fluency*

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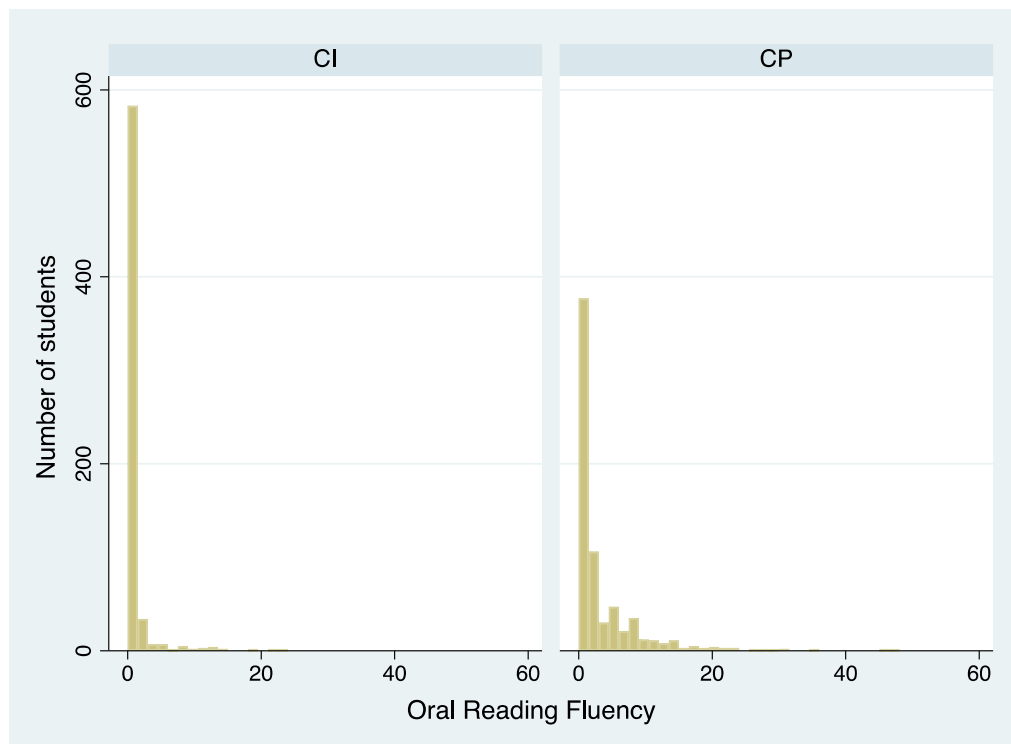


As shown in Table 5.7, students in Grade 1 had difficulty with this subtask; the average number of words attempted was almost the same as the auto-stop rule, which included an automatic end to the task if the student cannot read any word in the first line of text correctly. In Grade 1, 79.6% of students scored zero on this task and in Grade 2 this percentage was 43.3%. As with reading familiar words and decoding invented words, the distributional graphs in Figure 5.7 show a significant floor effect, illustrated by the large proportion of zero scores. Students in Grade 2 were able to read up to about 20 words per minute at best but most of the students in Grade 2 who can read some words are unable to read more than 10 words per minute.

Table 5.8: Number of words attempted by grade on oral reading fluency (ORF) passage

Level	N	Mean	SD	Min - Max
Grade 1	651	9.74	4.56	4 – 37
Grade 2	687	15.18	9.31	8 – 54

Figure 5.18: Distribution of number of correct per minute by grade on ORF passage



Reading Comprehension

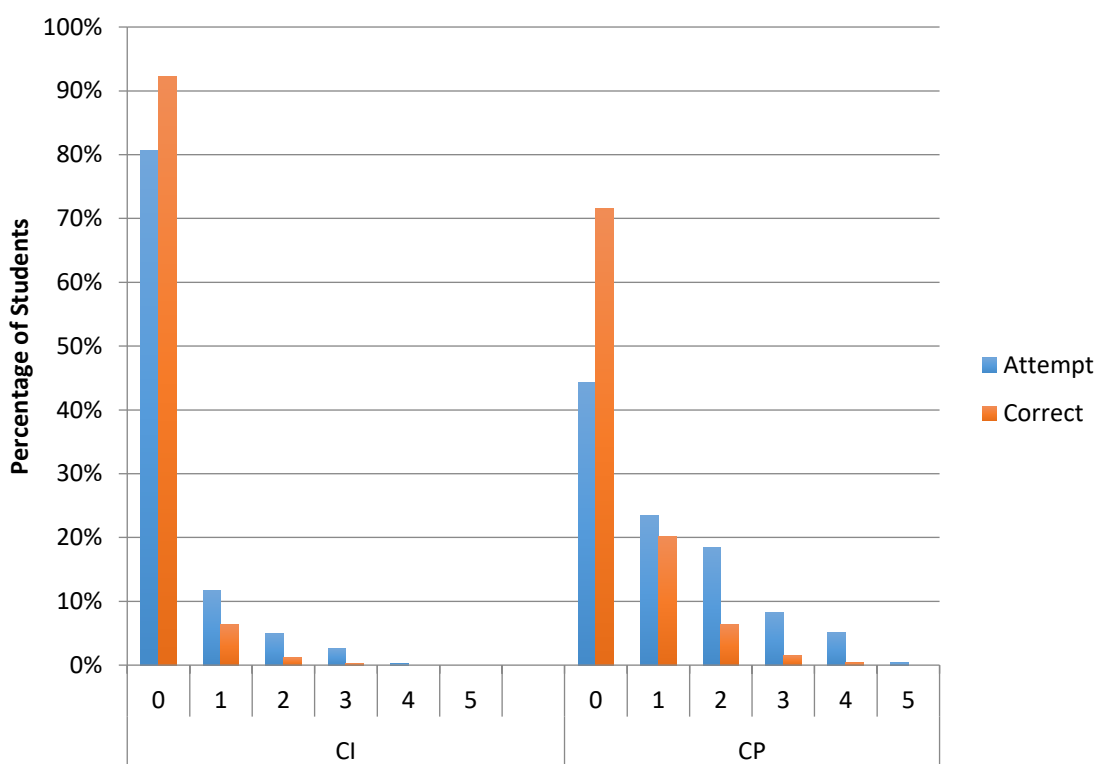
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As shown in Figure 5.8, 80% of Grade 1 students and 43.3% of Grade 2 students did not attempt any question, which matches the number of zero scores reported above on the passage reading. In Grade 1 and Grade 2 very few students were asked four or five questions, as very few students were able to read the entire passage. Since students were not able to read the passage, the assessor did not pose questions to them about their comprehension of what they read. Given the lack of text reading skills, it is not surprising that 91.3% of Grade 1 students and 72.2% of Grade 2 students scored zero on the reading comprehension questions. Students who were able to provide correct answers were able to give one or two correct answers out of five questions on average.

Figure 5.19: Percentage of students who attempted and correctly responded to 0-5 reading comprehension questions by grade



### *French Familiar Word Reading in Wolof Language Group*

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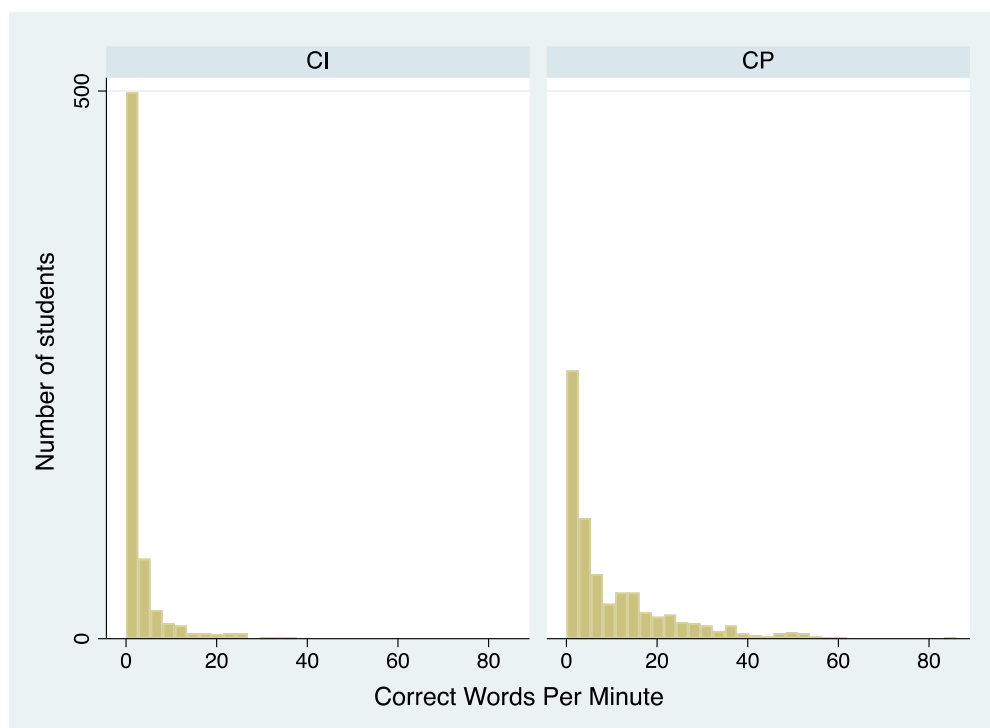


Compared to the subtasks on reading familiar Wolof words, students in both Grade 1 and Grade 2 were able to attempt more words on average on the French familiar words subtask as reported in number of French words attempted by grade in Table 5.8 below. The percentage of zero scores was lower for this subtask, with 64.4% for Grade 1 students and 27.7% for Grade 2 students. While the floor effect shown in Figure 5.9 is still large for Grade 1 students, it is smaller for Grade 2 students. The highest-scoring students in Grade 2 could read more than 50 French words in one minute and a high proportion could read 20 words per minute. In Grade 1, the highest-performing students could not decode more than about 20-25 words per minute.

Table 5.9: Number of French familiar words attempted by grade in Wolof language group

Level	N	Mean	SD	Min – Max
Grade 1	651	9.43	7.28	4 – 45
Grade 2	687	17.74	11.62	5 – 50

Figure 5.20: Distribution of number of correct words per minute in French by grade



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### 5.3.3 Summary of EGRA scores in Pulaar Language Group

The Pulaar sample was made up of 578 Grade 1 students and 619 Grade 2 students. There were students from all six regions in the sample. The distribution of Grade 1 and Grade 2 students among the six regions was the following:

Diourbel: 29 Grade 1 and 39 Grade 2  
Fatick: 47 Grade 1 and 52 Grade 2  
Kaffrine: 131 Grade 1 and 150 Grade 2  
Kaolack: 49 Grade 1 and 37 Grade 2  
Louga: 66 Grade 1 and 72 Grade 2  
Matam: 256 Grade 1 and 269 Grade 2

#### *Summary of EGRA scores*

The EGRA results presented in Table 5.9 below suggest that overall reading scores are low across all EGRA subtasks in Pulaar, including for the listening comprehension subtask. Letter knowledge is the foundation to decoding and reading fluency. In Grade 1, students were able to identify an average of 8.71 letters sounds correctly in one minute and in Grade 2, students scored an average of 16.34 letters sounds per minute. The limited knowledge of letter sounds contributed to low scores in familiar word reading, invented word decoding, and oral reading fluency. Students' inability to read fluently resulted in low reading comprehension scores where the average score is near zero. There is not a big difference in the average scores of reading familiar words in French and in Pulaar; students in Grade 2 scored slightly better on familiar French words than with Pulaar words. As expected, for all subtasks, students in Grade 2 scored higher than students in Grade 1.

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Table 5.10: Summary of EGRA scores in Pulaar

Subtask	Grade 1	Grade 2
Listening comprehension – Correct questions	0.75	1.25
Letter knowledge – Correct letters per minute	8.71	16.34
Familiar word reading – Correct words per minute	0.95	3.03
Invented word decoding – Correct invented words per minute	0.53	2.11
Oral reading fluency – Correct connected words per minute	0.30	1.78
Reading comprehension – Correct questions	0.02	0.17
French familiar word reading – Correct words per minute	0.98	5.66

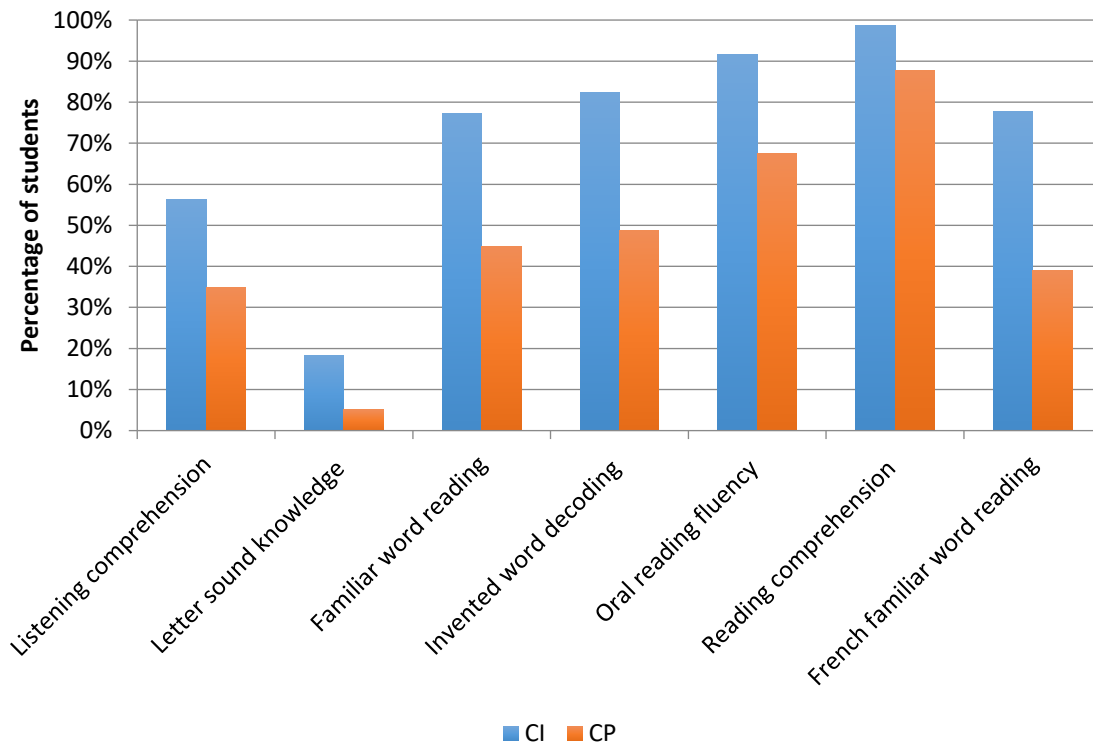
#### Overall Zero Scores

As shown in Figure 5.10, the highest percentage of zero scores was for reading comprehension, which is to be expected when students are not reading the passage on which the comprehension questions are based, while the lowest percentage of zero scores were for letter knowledge, which is also to be expected since letter sounds are basic building blocks when learning to read. For all subtasks, except letter knowledge, more than half of the Grade 1 students scored zero. This percentage is above 70% for familiar words in Pulaar and in French, invented words in Pulaar, and oral reading fluency and reading comprehension in Pulaar. As expected students in Grade 2 presented a lower percentage of zero scores than students in Grade 1. The difference in performance from Grade 1 to Grade 2 was larger in French familiar words reading than for other tasks.

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Figure 5.21: Percentage of students scoring zero on all subtasks by grade in Pulaar language group



### EGRA Scores by Gender in Pulaar Language Group

Differences in performance of boys and girls were small in Grade 1 and Grade 2 for all EGRA subtasks as seen in Table 5.10 below, and none were statistically significant. For most of the subtasks, girls outperformed boys, but again, it should be noted that the difference in mean scores were not statistically significant. Zero scores presented in Figure 5.11 below lead to the same conclusion, except for listening comprehension where differences between boys and girls were larger, but still not statistically significant.

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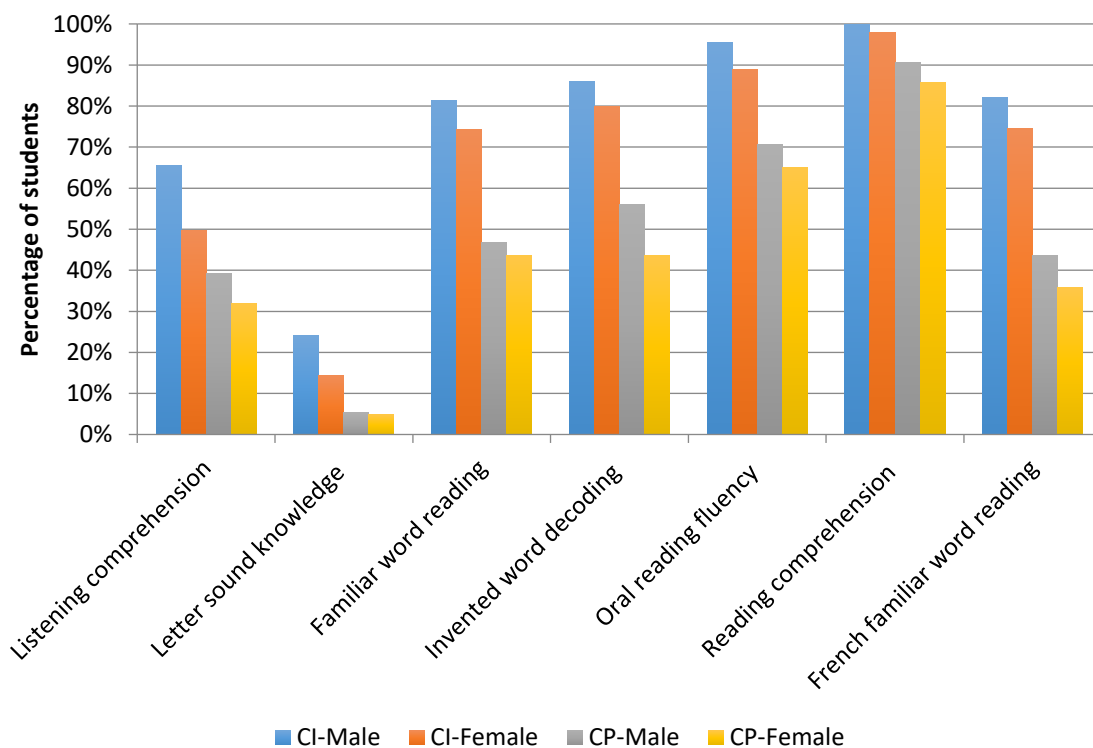
Table 5.11: EGRA scores by gender

Subtask	Grade 1		Grade 2	
	Male	Female	Male	Female
Listening comprehension – Correct questions	0.66	0.83	1.12	1.37
Letter knowledge – Correct letters per minute	8.08	9.32	15.72	16.88
Familiar word reading – Correct words per minute	1.06	0.85	2.92	3.13
Invented word decoding – Correct invented words per minute	0.46	0.60	2.33	1.91
Oral reading fluency – Correct connected words per minute	0.29	0.32	1.68	1.88
Reading comprehension – Correct questions	0.01	0.02	0.16	0.19
French familiar word reading – Correct words per minute	0.77	1.19	5.06	6.18

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Figure 5.22: Percentage of zero scores on all subtasks by gender in Pulaar language group



### EGRA scores by region for Pulaar language group

As shown in Table 5.11 and Table 5.12 below, both Grade 1 and Grade 2 students from Matam demonstrated a higher performance on the listening comprehension subtask, but the difference between regions is only statistically significant for Grade 1 students. In Grade 1, for all other tasks, students from Louga showed significantly higher means, except for on invented words and reading comprehension subtasks. For Grade 2, students from Fatick performed significantly worse than students in the other regions for the letter sound task, while students from Louga performed better than students in other regions on the invented word task.

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Table 5.12: EGRA scores by region for Grade I students in Pulaar language group

Subtask	Diourbel	Fatick	Kaffrine	Kaolack	Louga	Matam
Listening comprehension – Correct questions*	0.10	0.04	0.15	0.45	0.59	1.36
Letter knowledge – Correct letters per minute*	12.79	4.21	7.73	8.55	15.98	7.74
Familiar word reading – Correct words per minute*	0.83	0.51	0.75	0.49	2.96	0.73
Invented word decoding – Correct invented words per minute	0.90	0.19	0.42	0.33	0.74	0.59
Oral reading fluency – Correct connected words per minute	0.14	0.19	0.31	0.04	0.33	0.38
Reading comprehension – Correct questions	0.00	0.00	0.02	0.00	0.00	0.03
French familiar word reading – Correct words per minute*	0.76	0.53	0.95	0.80	1.98	0.89

\*Differences between regions are statistically significant

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Table 5.13: EGRA scores by region for Grade 2 students in Pulaar language group

Subtask	Diourbel	Fatick	Kaffrine	Kaolack	Louga	Matam
Listening comprehension – Correct questions	1.54	0.42	0.65	0.92	1.13	1.79
Letter knowledge – Correct letters per minute*	17.05	7.71	17.49	16.11	17.71	16.93
Familiar word reading – Correct words per minute	2.18	2.06	3.63	3.22	2.61	3.10
Invented word decoding – Correct invented words per minute*	1.18	1.17	2.35	1.65	3.93	1.86
Oral reading fluency – Correct connected words per minute	0.18	1.29	1.75	1.65	1.47	2.23
Reading comprehension – Correct questions	0.05	0.02	0.09	0.11	0.01	0.32
French familiar word reading – Correct words per minute	6.18	5.04	6.87	6.16	6.72	4.67

\*Differences between regions are statistically significant

### 5.3.4 EGRA results by subtask in Pulaar language group

#### *Listening Comprehension*

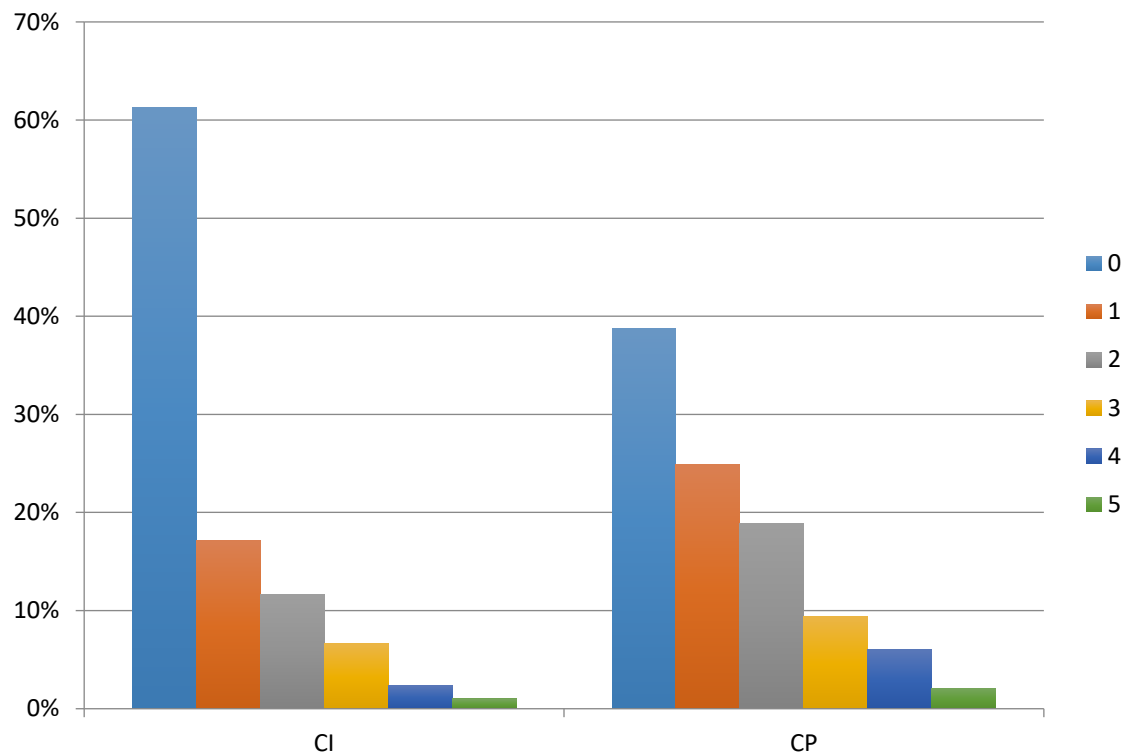
The results shown in Figure 5.12 below suggest that this subtask was difficult for students in general. More than 60% of students in Grade 1 and almost 40% of students in Grade 2 could not answer a single question correctly. Only 10% of Grade 1 students and 17.5% of Grade 2 students were able to provide three or more correct answers.

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Figure 5.23: Percentage of students correctly responding to 0-5 listening comprehension questions by grade



#### Letter knowledge

Table 5.13 shows the descriptive statistics for the number of letters attempted by students. Students in Grade 1 attempted an average of 26.03 letters while students in Grade 2 attempted an average of 34.02 letters. The graphs in Figure 5.13 present the distribution of the number of correct letter sounds per minute for Grade 1 and Grade 2 students. There is a floor effect for Grade 1 students, with 18.3% showing zero scores. This effect is not strong for Grade 2, where there are just 5.1% with zero scores. Very few students could correctly read more than 40 letter sounds per minute.

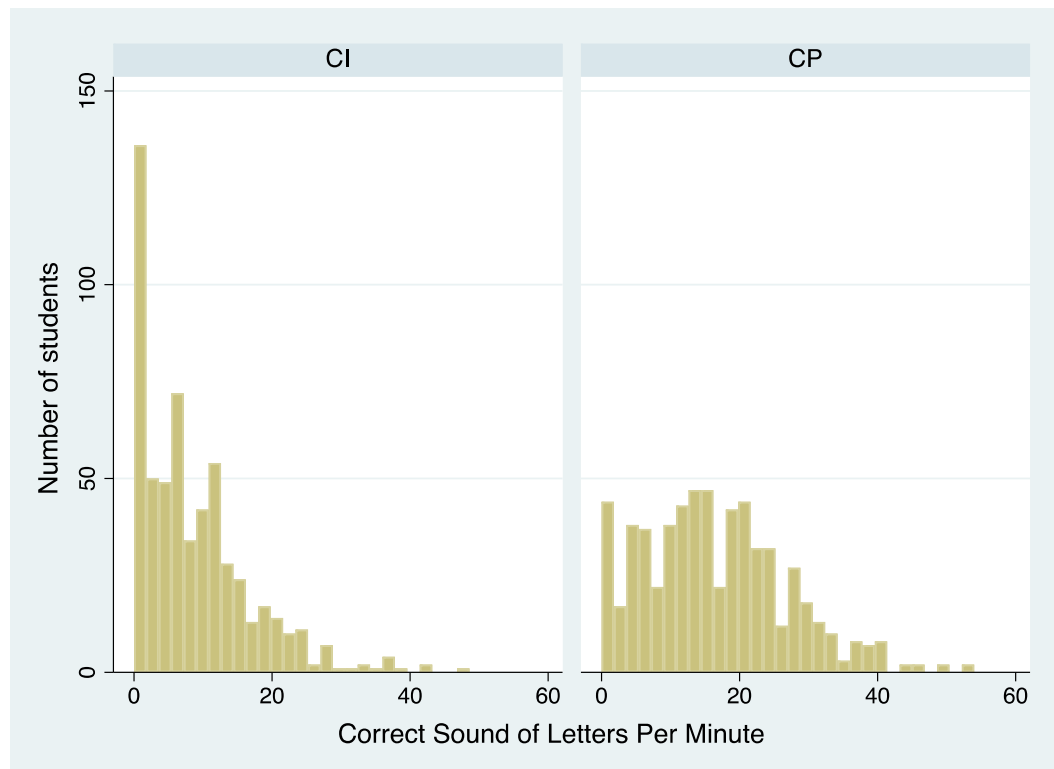
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Table 5.14: Number of letters attempted by grade

Level	N	Mean	SD	Min – Max
Grade 1	578	26.03	14.39	9 – 100
Grade 2	619	34.02	13.40	10 – 83

Figure 5.24: Distribution of number of correct letters per minute by grade



### Familiar Word Reading

Table 5.14 shows that students in Grade 1 attempted to read an average of 7.79 words, while this average is 13.05 for Grade 2 students. The proportion of zero scores for this task was high, with 77.3% of students in Grade 1 and 44.9% in Grade 2 scoring zero. Because of the high proportions of zero scores, there is a significant floor effect in the graphs presented in Figure

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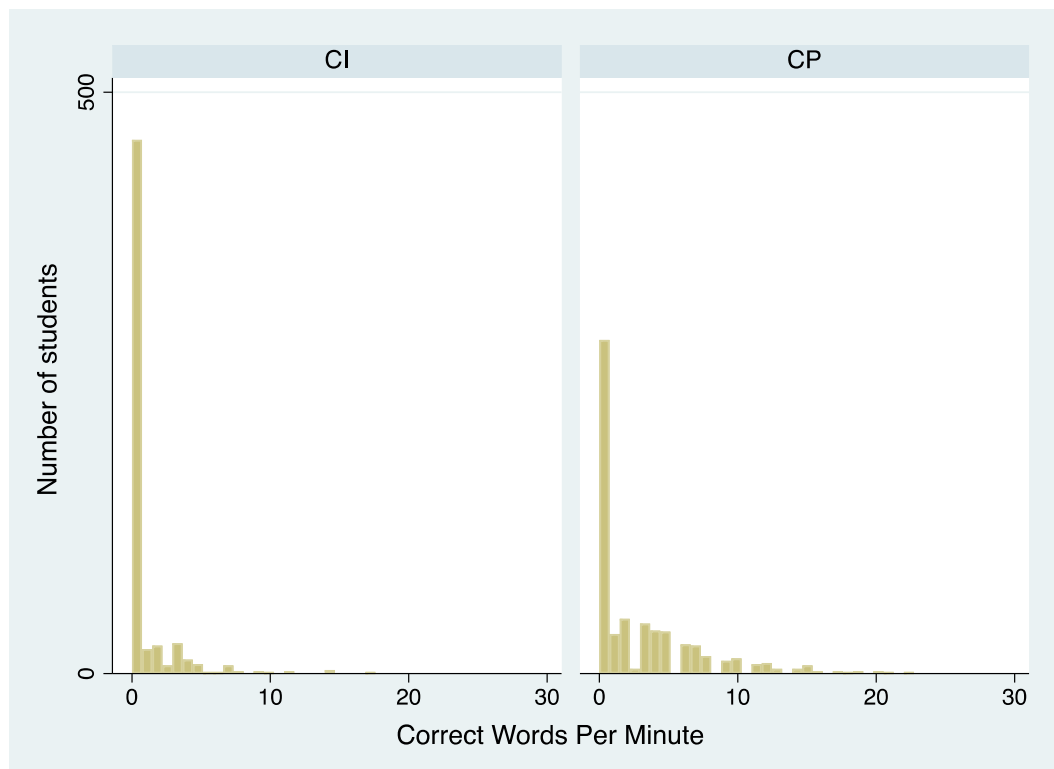


5.25. Students scoring the highest in Grade 2 could read at most about 20 words in Pulaar per minute.

Table 5.15: Number of words attempted by grade

Level	N	Mean	SD	Min – Max
Grade 1	578	7.79	6.67	5 – 50
Grade 2	619	13.05	9.12	5 – 50

Figure 5.26: Distribution of number of correct words per minute by grade



### *Invented Word Decoding*

As demonstrated in Table 5.15, the average number of invented words attempted was similar to what was observed for the familiar word task; students in Grade 1 had significant difficulty trying to decode invented words. Figure 5.15 presents distributional graphs for the number of

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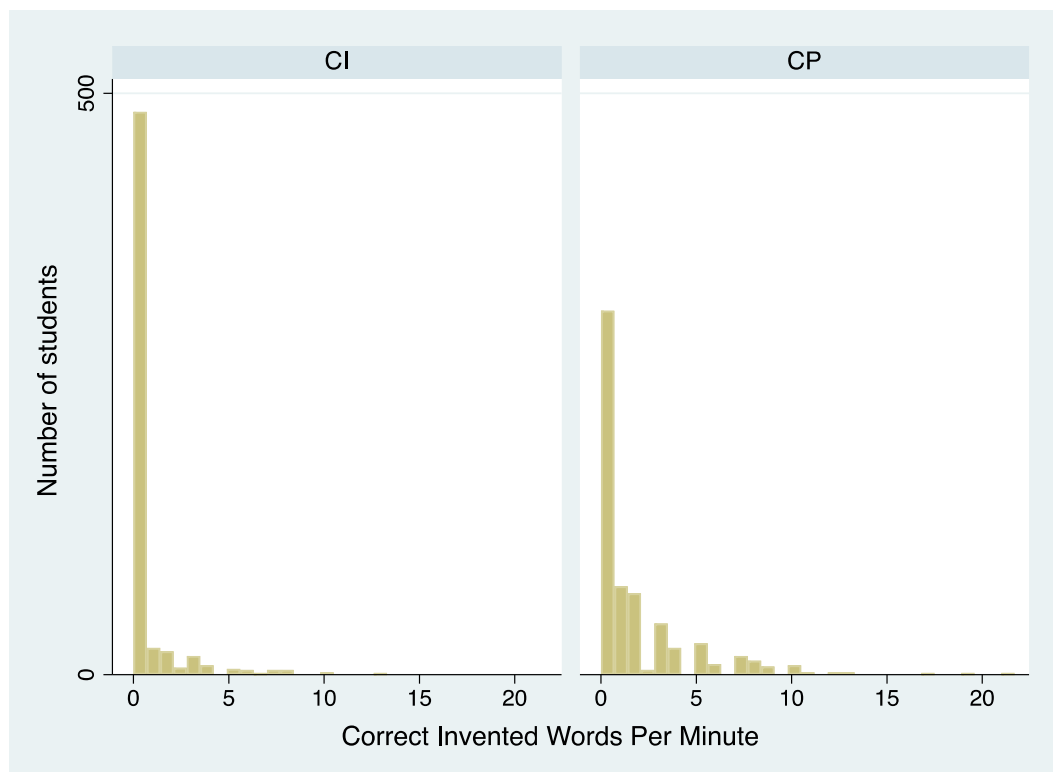
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correct invented words decoded per minute. This task was very difficult for the students and thus a significant floor effect was observed, especially for Grade 1 students. The highest-scoring students were able to decode at most about 10 words per minute.

Table 5.16: Number of words attempted by grade

Level	N	Mean	SD	Min – Max
Grade 1	578	7.22	6.05	5 – 40
Grade 2	619	12.88	9.70	5 – 50

Figure 5.26: Distribution of number of correct invented words per minute by grade



### Oral Reading Fluency

As shown in Table 5.16, students in Grade 2 were able to attempt to read an average of 8.62 words while students in Grade 2 attempted an average of 10.49 words. Figure 5.27

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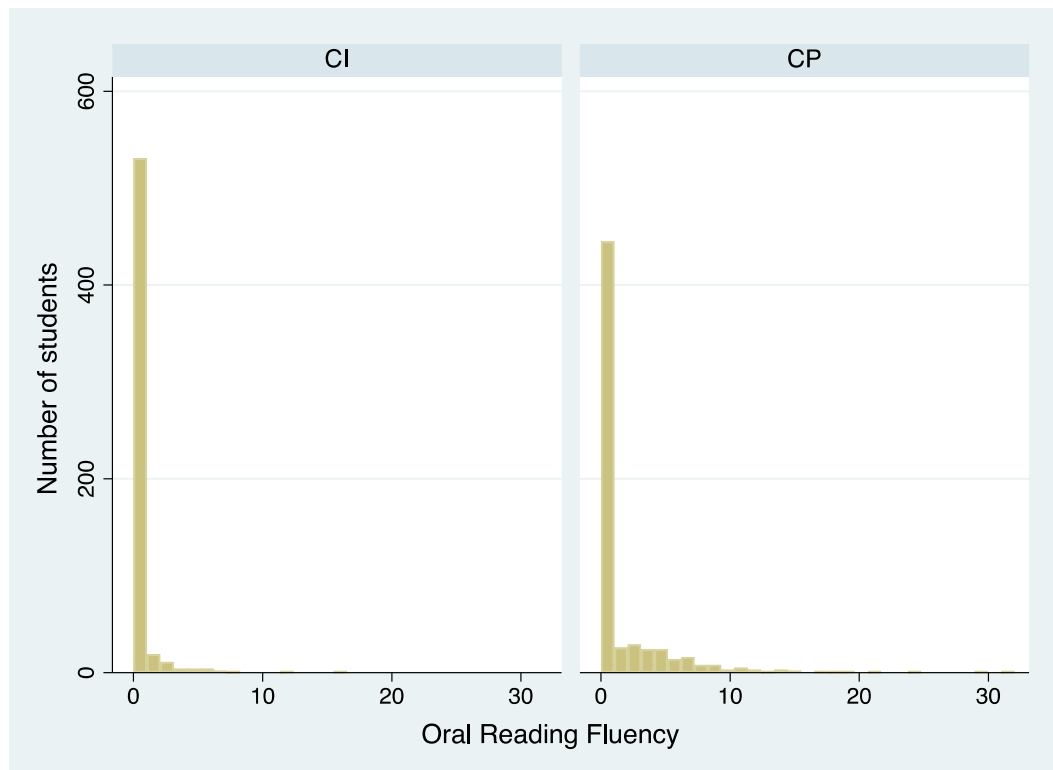


demonstrates that the proportion of zero scores was very high for this task in both Grade 1 (91.6%) and Grade 2 (67.4%). The distributional graphs show a significant floor effect. The most competent students in Grade 2 were able to read about 10 words per minute for this passage.

Table 5.17: Number of words attempted by grade

Level	N	Mean	SD	Min – Max
Grade 1	578	8.62	3.61	4 – 46
Grade 2	619	10.49	5.45	4 – 46

Figure 5.27: Distribution of number of correct connected words per minute by grade



### Reading Comprehension

As seen in Figure 5.17 below, the percentage of students who did not attempt to respond to any questions because they had not been able to read the first line of the reading passage was above 90% for Grade 1 students and was 70% for Grade 2 students. Grade 2 students were

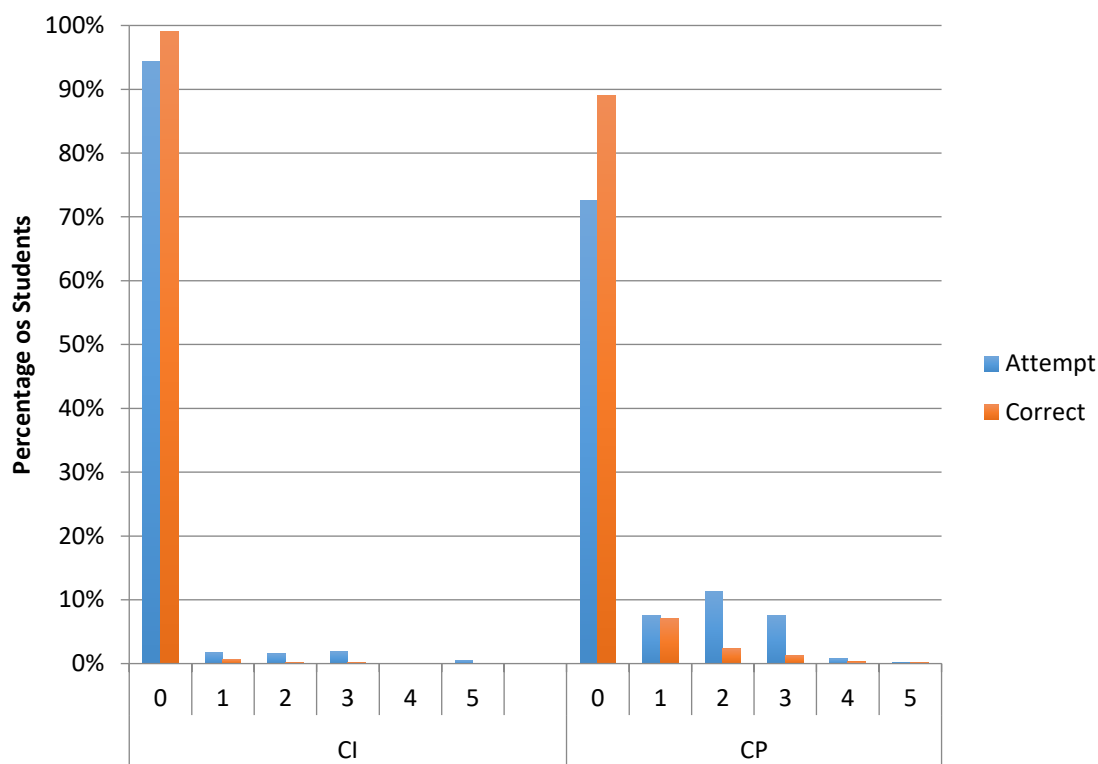
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asked more questions than Grade 1 students since they were able to read more words in the story. Almost all students in Grade 1 scored zero for this task while 89% of Grade 2 students scored zero. The few students who could provide at least one answer correctly were able to provide one to three correct answers.

Figure 5.28: Percentage of students who attempted and who correctly responded to 0-5 reading questions by grade



### French Familiar Word Reading

The average attempted French words by students was similar to that observed for the Pulaar familiar words as noted in Table 5.17. For Grade 1 students, performance on this task was similar to the performance observed for the reading of familiar Pulaar words with approximately the same percentage of students scoring zero. Grade 2 students scored slightly higher on this task than on the Pulaar familiar word task. Some students in Grade 2 were able to read up to 20 to 40 French words in one minute as demonstrated in Figure 5.18 below.

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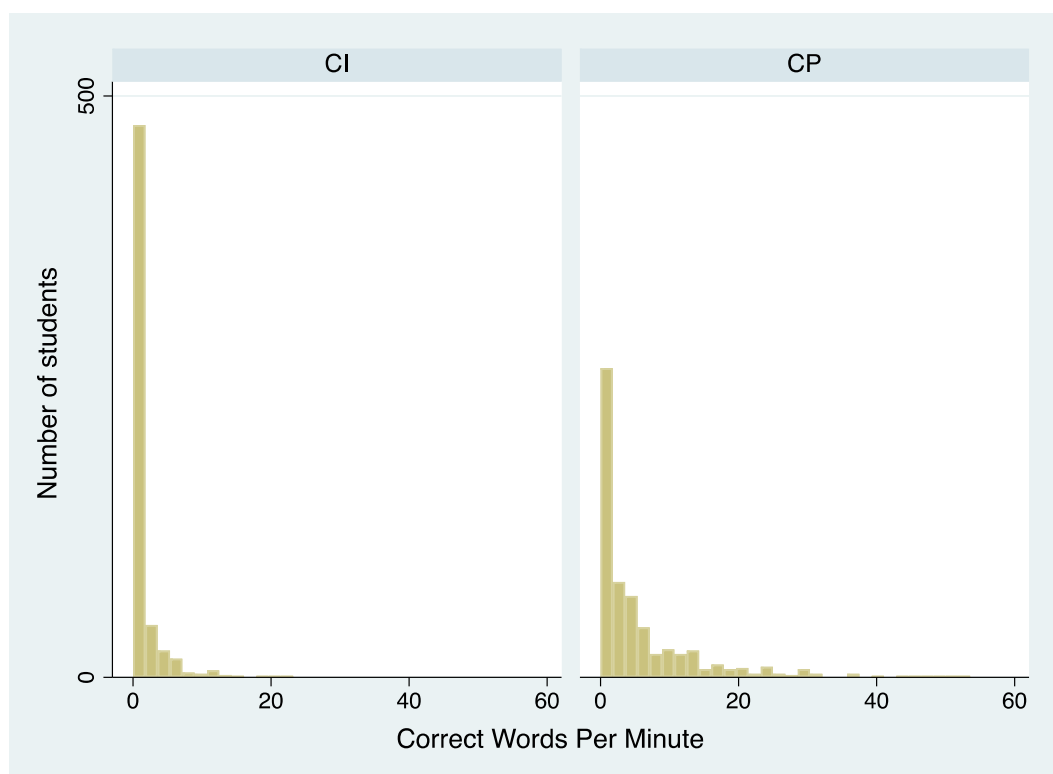
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Table 5.18: Number of words attempted by grade

Level	N	Mean	SD	Min – Max
Grade 1	578	7.98	7.12	5 – 50
Grade 2	619	14.84	10.47	2 – 50

Figure 5.29: Distribution of number of correct words per minute by grade



### 5.3.5 Summary of EGRA scores in Seereer

The Seereer sample was made up of 656 Grade 1 students and 662 Grade 2 students. There were students from four of the six regions in the Seereer sample. The distribution of Grade 1 and Grade 2 students among the four regions was the following:

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Diourbel: 124 Grade 1 and 131 Grade 2

Fatick: 328 Grade 1 and 318 Grade 2

Kaffrine: 28 Grade 1 and 31 Grade 2

Kaolack: 176 Grade 1 and 182 Grade 2

### *Summary of EGRA scores*

Table 5.18 presents overall scores for the different EGRA subtasks. Results show that the scores were low across all EGRA subtasks, except for listening comprehension. For this initial task, students in Grade 1 were able to provide an average of 3.09 correct answers and students in Grade 2 an average of 3.64 correct answers. On average, students answered more than 60% of questions correctly on the listening comprehension task.

Letter knowledge is one the fundamental skills to master before being able to read or decode words. For this subtask, students in Grade 1 were able to read on average 4.73 correct letter sounds per minute and students in Grade 2 an average of 11.58 correct letter sounds per minute. The remaining subtasks posed more of a challenge for the students as noted with the low average scores reported. Since reading words or text was quite difficult for both Grade 1 and Grade 2 students, it is not surprising that the reading comprehension average scores showed most students unable to provide a correct answer to any question. It should be noted also that students in Grade 2 were able to read more French words per minute than Seereer words per minute. For all of the EGRA subtasks, as expected, students in Grade 2 outperformed students in Grade 1.

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Table 5.19: Summary of EGRA scores in Seereer by grade

Subtask	Grade 1	Grade 2
Listening comprehension – Correct questions	3.09	3.64
Letter knowledge – Correct letters per minute	4.73	11.58
Familiar word reading – Correct words per minute	0.41	2.08
Invented word decoding – Correct invented words per minute	0.29	1.74
Oral reading fluency – Correct connected words per minute	0.63	3.34
Reading comprehension – Correct questions	0.06	0.24
French familiar word reading – Correct words per minute	1.16	7.17

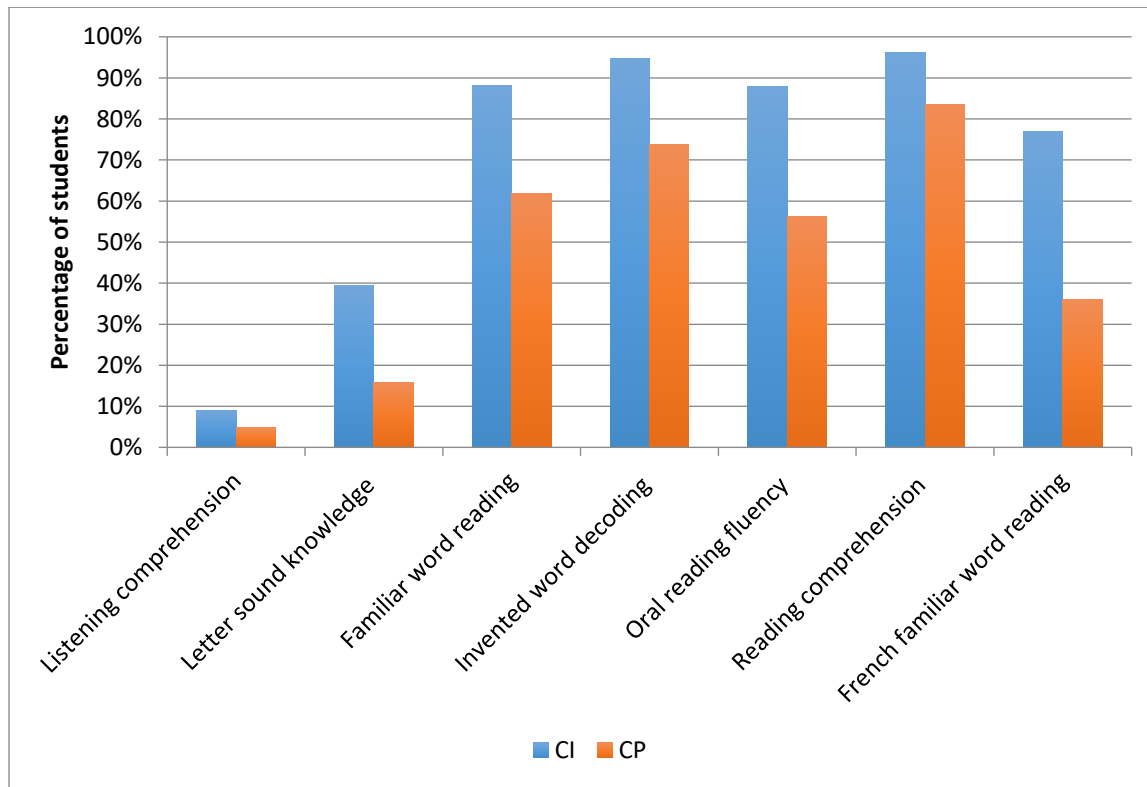
#### Overall Zero scores

Figure 5.19 presents the percentage of students with zero scores on each subtask of the EGRA. Percentages of zero scores were high for familiar words, invented words, oral reading fluency, and reading comprehension. Listening comprehension and letter knowledge presented the lowest percentage of zero score for both Grade 1 and Grade 2 students. As expected, students in Grade 2 presented a lower percentage of zero scores, especially in reading French familiar words.

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Figure 5.30: Percentage of students scoring zero on all subtasks by grade



### EGRA Scores by Gender

For every subtask of the EGRA, differences between the average performance of boys and girls were quite small and none were statistically significant. For most of the differences presented in Table 5.19, girls slightly outperformed boys, but again, the difference was not statistically significant. Percentages of zero scores by gender are presented in Figure 5.20.

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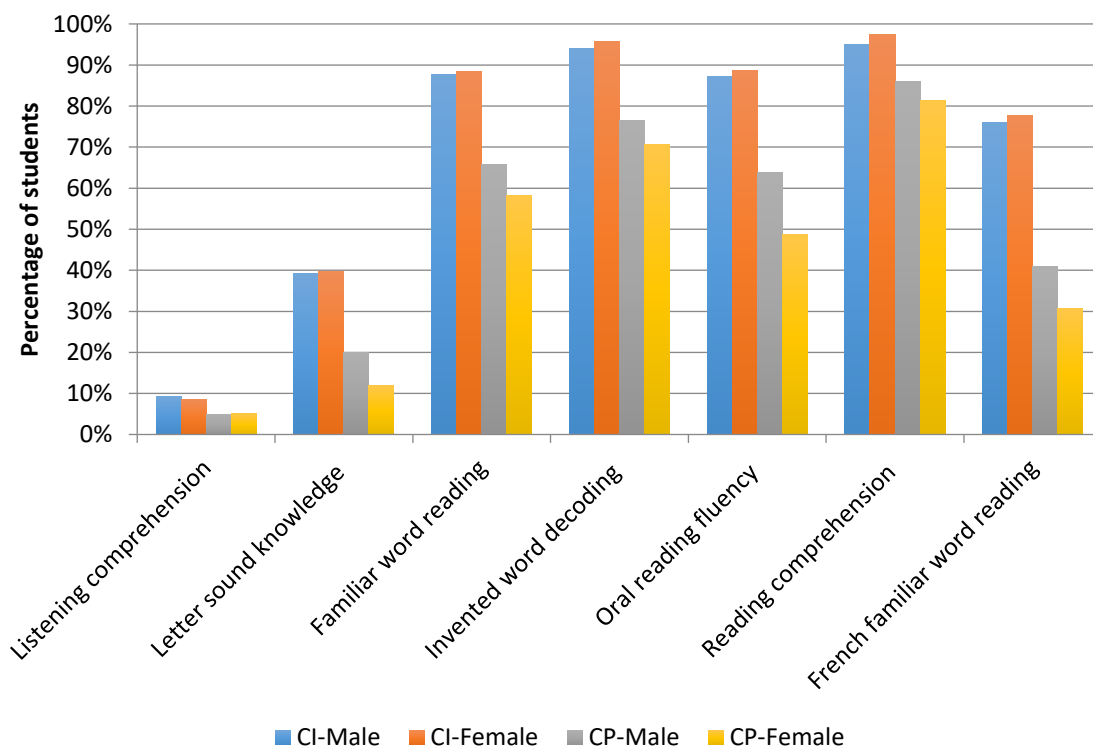
Table 5.20: EGRA scores by gender

Subtask	Grade 1		Grade 2	
	Male	Female	Male	Female
Listening comprehension – Correct questions	3.18	3.00	3.68	3.60
Letter knowledge – Correct letters per minute	4.66	4.79	10.07	13.04
Familiar word reading – Correct words per minute	0.38	0.43	1.81	2.35
Invented word decoding – Correct invented words per minute	0.33	0.26	1.69	1.79
Oral reading fluency – Correct connected words per minute	0.59	0.66	2.91	3.75
Reading comprehension – Correct questions	0.08	0.05	0.18	0.30
French familiar word reading – Correct words per minute	1.10	1.22	6.27	8.04

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Figure 5.31: Percentage of zero scores on all subtasks by gender



### EGRA scores by region for Seereer language group

Only four regions out of the six have students sampled for the Seereer language group. As demonstrated in Table 5.21 and Table 5.22 below, in both Grade 1 and Grade 2, students in Fatick did better than students in other regions, except for Grade 1 students on the invented word subtask, where the performance of students from Kaffrine was similar to the performance of the students from Fatick. Note that the distribution of students by region for Seereer is very uneven with a majority of students in Fatick<sup>17</sup>.

<sup>17</sup> This could be problematic when trying to compare scores across regions. Smaller sample size for some regions will lead to less precise estimates. Bigger differences will be needed across regions in order to detect significant differences.

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Table 5.21: EGRA scores by region for Grade I students in Seereer language group

Subtask	Diourbel	Fatick	Kaffrine	Kaolack
Listening comprehension – Correct questions*	2.77	3.29	2.32	3.07
Letter knowledge – Correct letters per minute*	3.56	6.23	0.71	3.38
Familiar word reading – Correct words per minute*	0.16	0.66	0.00	0.18
Invented word decoding – Correct invented words per minute*	0.19	0.45	0.43	0.05
Oral reading fluency – Correct connected words per minute*	0.24	0.99	0.21	0.28
Reading comprehension – Correct questions*	0.03	0.10	0.00	0.03
French familiar word reading – Correct words per minute*	0.84	1.42	0.50	1.00

\*Differences between regions are statistically significant

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Table 5.22: EGRA scores by region for Grade 2 students in Seereer language group

Subtask	Diourbel	Fatick	Kaffrine	Kaolack
Listening comprehension – Correct questions*	3.20	3.90	3.42	3.54
Letter knowledge – Correct letters per minute*	7.63	14.34	8.16	10.17
Familiar word reading – Correct words per minute*	0.85	2.94	0.84	1.69
Invented word decoding – Correct invented words per minute*	1.05	2.53	0.71	1.04
Oral reading fluency – Correct connected words per minute*	1.64	4.83	1.13	2.32
Reading comprehension – Correct questions*	0.11	0.38	0.16	0.09
French familiar word reading – Correct words per minute*	4.07	9.01	4.00	6.72

\*Differences between regions are statistically significant

### 5.3.6 EGRA results by subtask for Seereer language group

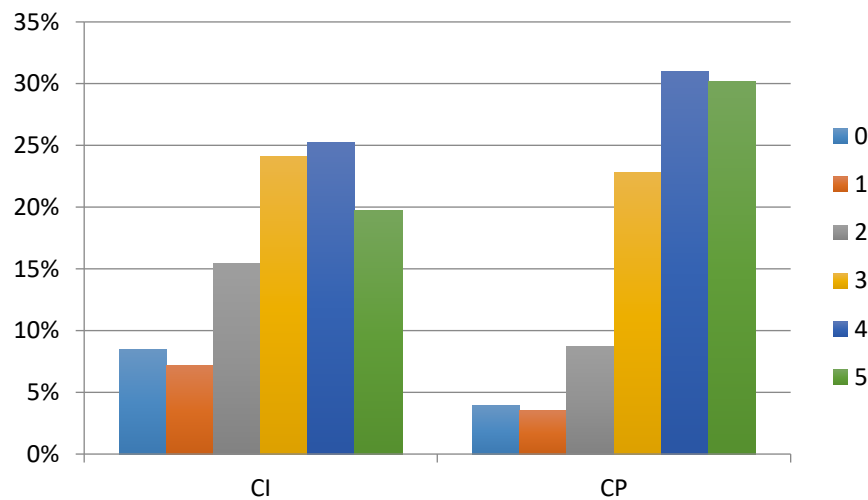
#### *Listening Comprehension*

As shown in Figure 5.21 below, students' listening comprehension in Seereer was strong in both Grade 1 and Grade 2. In Grade 1, 45% of students were able to provide 80% of correct answers, while 61% of Grade 2 students were able to provide 80% or more of correct answers. Compared to other tasks, the percentage of students with zero scores was very low with 8.9% in Grade 1 and 4.9% in Grade 2.

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Figure 5.32: Percentage of students correctly responding to 0-5 listening comprehension questions by grade in Seereer language group



### Letter knowledge

Table 5.22 shows that Grade 1 students attempted an average of 17.98 letter sounds, while Grade 2 students attempted an average of 27.43 letter sounds. Fluency rates for letter sounds per grade are presented in Figure 5.22. A floor effect was observed for Grade 1 students since 39.5% of the students scored zero on this task. This percentage was lower for Grade 2 students, with only 15.9% with zero scores. The highest-scoring students were able to read about 30 letter sounds in one minute.

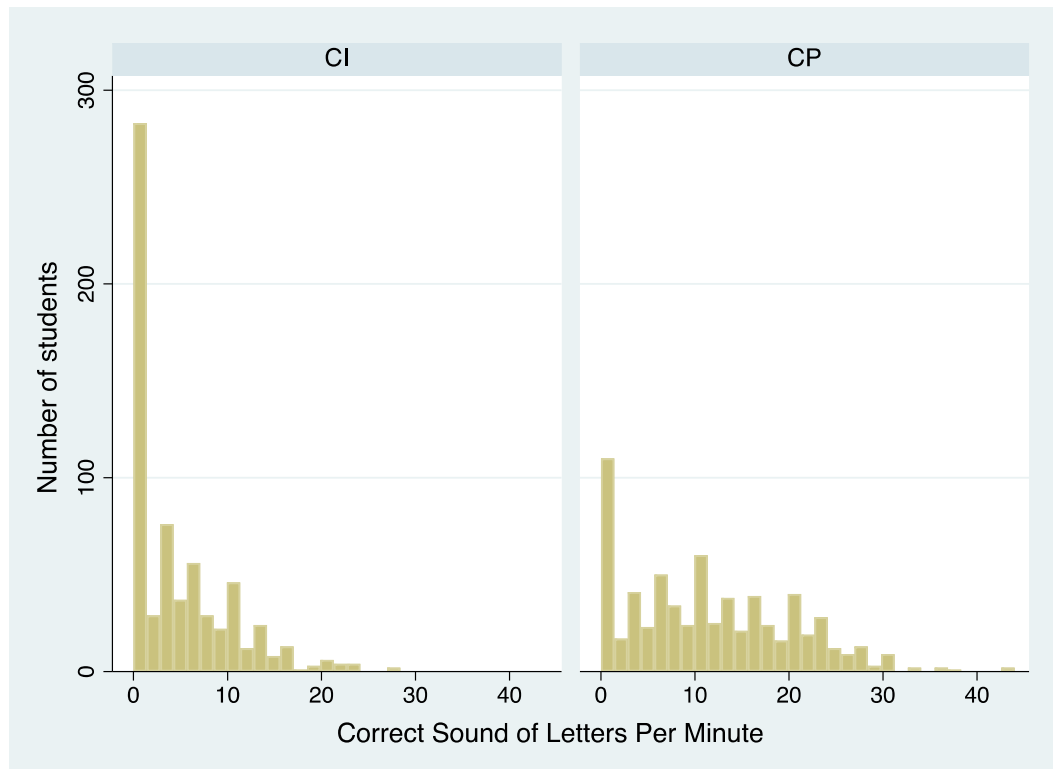
Table 5.23: Number of letters attempted by grade

Level	N	Mean	SD	Min - Max
Grade 1	656	17.98	8.89	8 – 52
Grade 2	662	27.43	11.71	10 – 69

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Figure 5.33: Distribution of number of correct letter sounds per minute by grade



### Familiar Word Reading

As can be seen by the results in Table 5.23, students in Grade 1 attempted a very low number of words considering that every student is asked to attempt at least 5 words the task ends automatically. Considerable floor effects for both Grade 1 and Grade 2 were observed as shown in Figure 5.23. For this task, 88.1% of Grade 1 students and 61.9% of Grade 2 students scored zero. The few students able to carry out the task were able to read approximately 10 Seereer words correctly per minute.

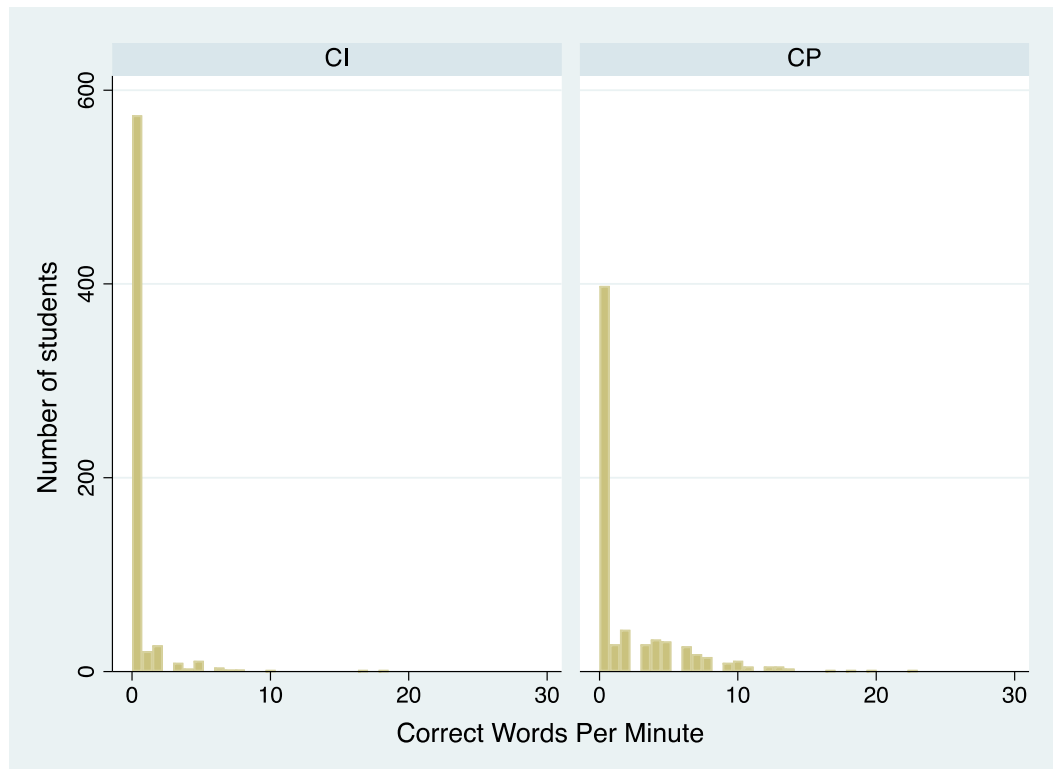
Table 5.24: Number of words attempted by grade

Level	N	Mean	SD	Min - Max
Grade 1	656	6.63	4.72	5 – 48
Grade 2	662	11.43	8.98	5 – 50

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Figure 5.34: Distribution of number of correct words per minute by grade



### *Invented Words*

As shown in Table 5.24, the average number of words attempted by students is a bit lower than for the familiar Seereer word task. In fact, 94.8% of Grade 1 students and 73.7% of Grade 2 students showed a score of zero. Accordingly, the floor effect on the distributional graphs presented in Figure 5.24 is very significant. Nevertheless, some students were able to read about 10 invented words per minute.

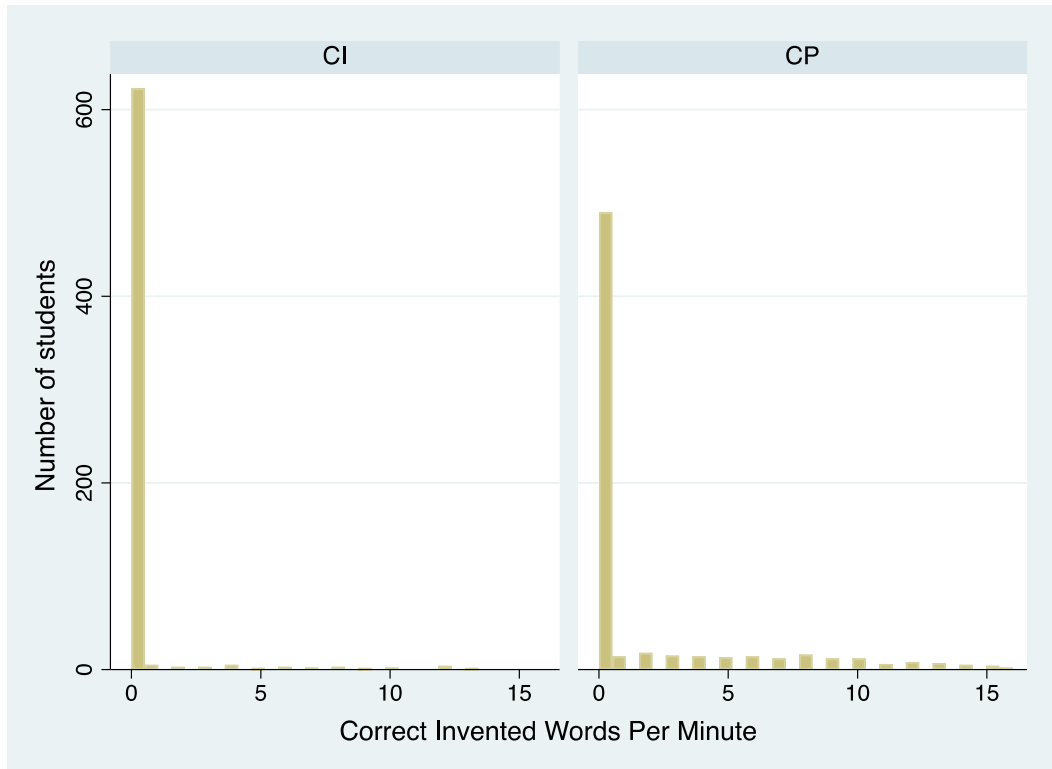
Table 5.25: Number of words attempted by grade

Level	N	Mean	SD	Min - Max
Grade 1	656	5.55	2.56	5 – 25
Grade 2	662	8.30	6.21	5 – 37

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Figure 5.35: Distribution of number of correct invented words per minute by grade



### Oral Reading Fluency

Descriptive statistics for the number of words attempted by students are presented below in Table 5.25. Students in Grade 1 were not able to perform this task; the average number of words attempted was about the same as the number of words for an auto-stop of the task. Accordingly, a considerable floor effect is observed on the distributional graphs in Figure 5.25. For Grade 1 students, 87.9% were unable to read a single word; this figure was 56.2% for Grade 2 students. The highest-scoring students in Grade 2 were able to read at most about 20 words in one minute.

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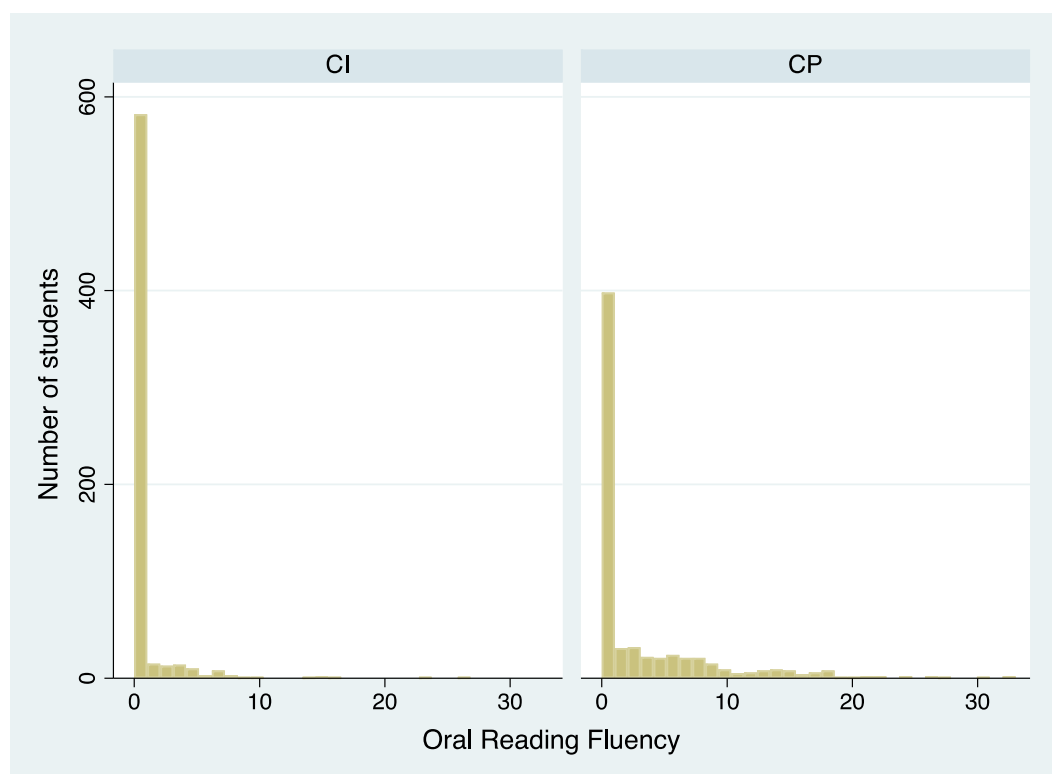
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Table 5.26: Number of words attempted by grade

Level	N	Mean	SD	Min - Max
Grade 1	656	8.95	3.56	8 – 33
Grade 2	662	13.43	7.80	8 – 45

Figure 5.36: Distribution of number of correct connected words per minute by grade



### Reading Comprehension

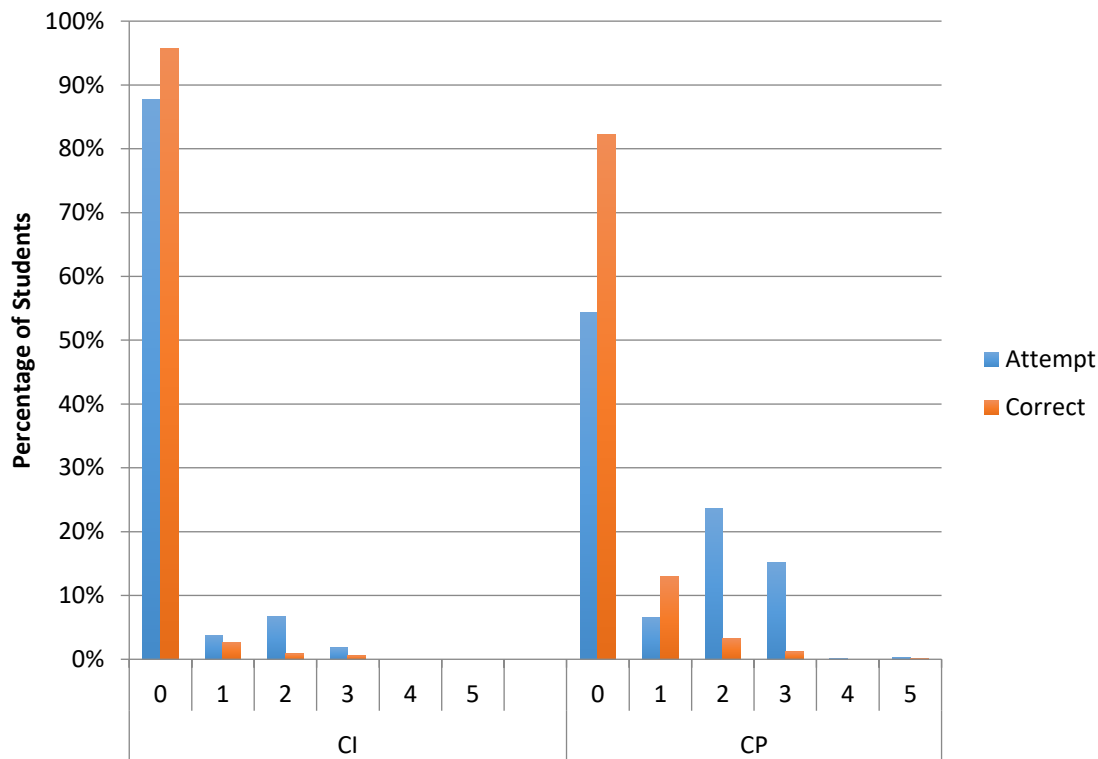
Most Grade 1 students were not asked any questions because they were unable to read enough words in the passage in order to be asked even the first reading comprehension question. In Grade 2, about half of the students were asked at least the first question of the subtask. In Grade 1, students were asked up to three questions maximum for those who read further, while in Grade 2 there were some students who were asked all five questions. Consequently, as seen in Figure 5.26, 95.7% of students in Grade 1 showed zero scores, and 82.3% for Grade

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2. In Grade 2, most of the students who were posed any questions were able to answer only one correctly.

Figure 5.37: Percentage of students who attempt and who correctly responded to 0-5 reading questions by grade



### French Familiar Words

Compared to familiar words in Seereer, children in Grade 2 were able to attempt slightly more words as seen in Table 5.26, while the difference is not very large in the number of words attempted for French familiar words or Seereer familiar words for Grade 1 students. Floor effects were significant in the distributional graph seen in Figure 5.27 of the Grade 1 students as 76.9% of the students scored zero. The highest-scoring students in Grade 2 were able to read between 20 and 40 correct French words in one minute.

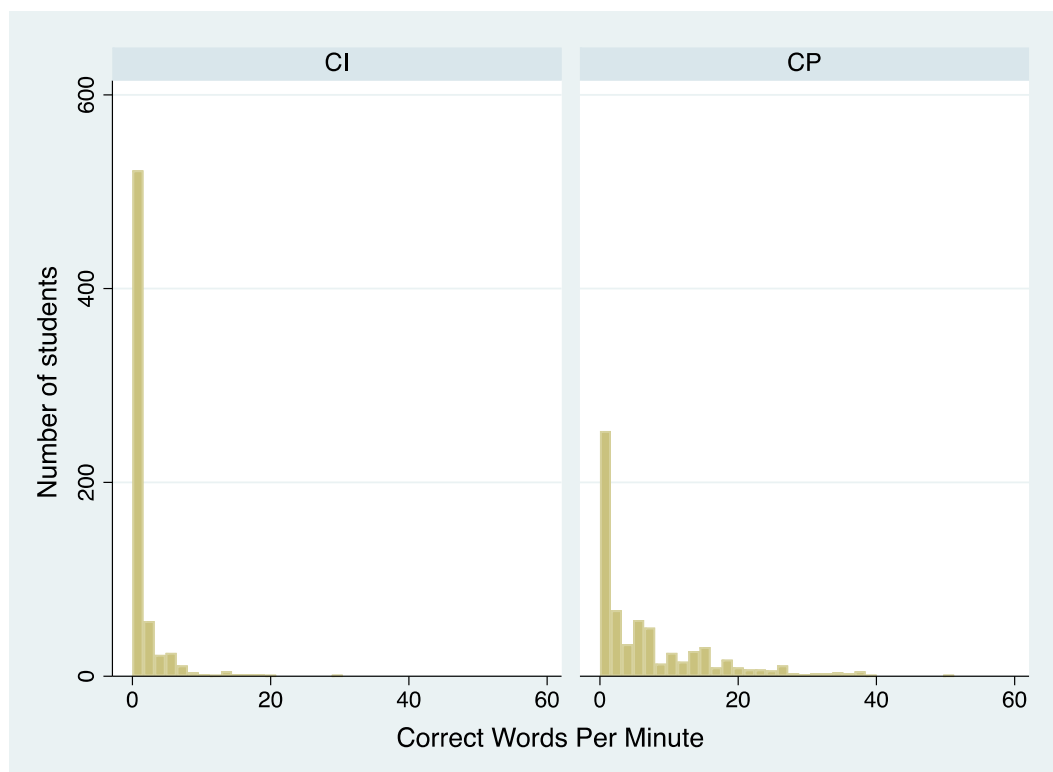
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Table 5.27: Number of words attempted by grade

Level	N	Mean	SD	Min - Max
Grade 1	656	7.83	5.46	5 – 45
Grade 2	662	14.52	9.34	5 – 50

Figure 5.38: Distribution of number of correct words per minute by grade



## 5.4 Correlations between student reading and context data with teacher, school director, and school characteristics

Correlates of student, teacher, and school director characteristics with student EGRA scores were analyzed using a multilevel regression model to take into consideration that students from the same school share a common influence of the school characteristics. All regression models

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were run independently using two different outcomes, the number of correct letter sounds per minute and the number of familiar French words per minute. The first outcome is selected because this task presents more variation than the oral reading fluency task, which had as expected given the timing of this baseline before the program had started significant zero scores. All independent variables were considered alone in order to look at only the impact of each characteristic independently. Lastly, multilevel regressions were conducted by language group.

#### 5.4.1 Correlations with student variables

Students in the Wolof language group who lived in urban areas showed an average of 3.39 fewer letter sounds per minute than those who lived in rural areas. This relation was not observed for Pulaar or Seereer students. When Wolof and Pulaar students spoke the same language at home as the language of their EGRA, they had a better performance in the letter sound subtask, thus indicating a language match of home and school for these students. Pulaar students also showed a better performance in familiar words in French when they spoke Pulaar at home. The language spoken with friends was linked to student performance on the letter sound subtask only for Wolof students. The competency in reading of the students' parents was correlated with student performance on the two subtasks considered (letter sounds in national language and familiar words in French) for Wolof students only. Finally, homework demonstrated a significant positive relationship for both letter sounds and familiar French words and this correlation was observed for every language as seen in Table 5.29, 5.30, and 5.31 below.

Table 5.29: Regression coefficients for student variables in Wolof language group

Factors	Letter sounds per minute		Familiar French words per minute	
	Coefficient	p-value	Coefficient	p-value
School is in an urban area	-3.39	0.003	-0.91	0.493
Language at home is the same as the language of the EGRA	1.84	0.008	1.41	0.080
Language with friends is the same as the language of the EGRA	2.50	0.010	1.59	0.154
Mother of the student can read	0.53	0.397	2.01	0.005
Father of the student can read	1.98	0.001	2.87	<0.001
Student went to preschool	0.51	0.377	0.71	0.292
Student has homework	2.83	<0.001	3.70	<0.001

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Table 5.30: Regression coefficients for student variables in Pulaar language group

Factors	Letter sounds per minute		Familiar French words per minute	
	Coefficient	p-value	Coefficient	p-value
School is in an urban area	1.82	0.419	-1.21	0.329
Language at home is the same as the language of the EGRA	3.32	0.023	2.21	0.033
Language with friends is the same as the language of the EGRA	0.58	0.612	1.37	0.076
Mother of the student can read	2.12	0.098	-0.01	0.989
Father of the student can read	1.46	0.160	0.21	0.766
Student went to preschool	0.71	0.324	-0.14	0.773
Student has homework	2.19	0.001	1.18	0.011

Table 5.31: Regression coefficients for student variables in Seereer language group

Factors	Letter sounds per minute		Familiar French words per minute	
	Coefficient	p-value	Coefficient	p-value
School is in an urban area	0.23	0.936	0.67	0.755
Language at home is the same as the language of the EGRA	-0.17	0.840	-0.71	0.371
Language with friends is the same as the language of the EGRA	-0.49	0.503	0.21	0.762
Mother of the student can read	-0.27	0.675	0.70	0.253
Father of the student can read	0.07	0.899	0.32	0.540
Student went to preschool	-0.385	0.438	-0.38	0.423
Student has homework	2.14	<0.001	1.79	<0.001

#### 5.4.2 Correlations with teacher variables

For teachers, number of years of experience, in-service training on reading, and level of confidence in their reading or writing skills in national language were considered as having a

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potential relationship with the score of the two EGRA subtasks considered in these analyses. In fact, as demonstrated in Tables 5.32, 5.33, and 5.34 below, none of those variables showed a significant relationship except for in-service training on reading teachers in the Wolof language group schools. Wolof language group students of teachers who had followed an in-service training read an average of 2.93 more familiar French words per minute.

Table 5.32: Regression coefficients for teacher variables in Wolof language group schools

Factors	Letter sounds per minute		Familiar French words per minute	
	Coefficient	p-value	Coefficient	p-value
Number of years of experience	-0.24	0.207	-0.12	0.579
In-service training on reading	0.77	0.428	2.93	0.007
Level of confidence in reading competency	-0.09	0.395	0.09	0.460
Level of confidence in writing competency	0.07	0.503	0.19	0.136

Table 5.33: Regression coefficients for teacher variables in Pulaar language group schools

Factors	Letter sounds per minute		Familiar French words per minute	
	Coefficient	p-value	Coefficient	p-value
Number of years of experience	-0.18	0.321	-0.15	0.126
In-service training on reading	0.55	0.667	0.33	0.635
Level of confidence in reading competency	0.10	0.501	-0.21	0.120
Level of confidence in writing competency	-0.09	0.524	-0.15	0.061

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Table 5.34: Regression coefficients for teacher variables in Seereer language group schools

Factors	Letter sounds per minute		Familiar French words per minute	
	Coefficient	p-value	Coefficient	p-value
Number of years of experience	0.10	0.433	-0.05	0.644
In-service training on reading	-1.53	0.078	-0.41	0.536
Level of confidence in reading competency	0.05	0.658	0.04	0.649
Level of confidence in writing competency	-0.03	-.852	-0.10	0.245

#### 5.4.3 Correlations with school director variables

Among the variables used to study their relationship with the two EGRA subtasks with sufficient variance (letter sounds in national language and familiar words in French), only in the Pulaar language group were some statistically significant relationships observed as demonstrated in Tables 5.35, 5.36, and 5.37 below. Students in the Pulaar language group demonstrated a higher performance in letter sounds and familiar French words when there was a library at their school.

Table 5.35: Regression coefficients for school director variables in Wolof language group schools

Factors	Letter sounds per minute		Familiar French words per minute	
	Coefficient	p-value	Coefficient	p-value
Number of years of experience	-0.14	0.214	0.04	0.708
In-service training on school management	-0.49	0.652	-0.11	0.923
Students have textbook at the beginning of the school year	0.44	0.694	-0.54	0.667
School has a library	-2.15	0.082	-2.19	0.109

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Table 5.36: Regression coefficients for school director variables in Pulaar language group schools

Factors	Letter sounds per minute		Familiar French words per minute	
	Coefficient	p-value	Coefficient	p-value
Number of years of experience	-0.07	0.536	-0.09	0.109
In-service training on school management	0.78	0.557	0.23	0.748
Students have textbook at the beginning of the school year	-1.92	0.155	0.06	0.939
School has a library	6.21	0.023	3.59	0.016

Table 5.37: Regression coefficients for school director variables in Seereer language group schools

Factors	Letter sounds per minute		Familiar French words per minute	
	Coefficient	p-value	Coefficient	p-value
Number of years of experience	0.01	0.931	-0.01	0.890
In-service training on school management	-1.12	0.253	-0.22	0.763
Students have textbook at the beginning of the school year	0.302	0.760	1.18	0.111
School has a library	1.62	0.132	1.29	0.115

## 6 Conclusion

As expected, the scores on this EGRA baseline are low in general across the three language groups in national language results but it is notable that students can identify perhaps more letter sounds/names than might be expected without explicit instruction in the national language. This is an indication of the transfer of skills from their instruction in French, especially with the additional finding that scores on the French familiar word subtask are better than for national language sub-tasks. So, while the scores across the spectrum of EGRA subtasks are not high in national languages, this was to be expected given that this is a pre-treatment baseline study before any instruction had occurred in national languages. There are some important areas in which performance is better than on other sub-tasks, such as on the letter sound tasks

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and the French familiar words task. However, considering that students have already received up to two years of instruction in French, the results in the French familiar words task could be seen as rather low. For Wolof, the letter sounds score was also appreciably higher when the child reported that the father could read, which indicates a potential area of traction for the program in its family engagement strategies.

In addition, the results on the listening comprehension task were good for Wolof and Seereer, indicating that children will come to school for the national language reading program with an appreciable amount of receptive vocabulary, which is a critical asset for learning to read in the language and one of the key rationales for mother tongue or national language reading programs. In Pulaar, the listening comprehension results are disconcerting in their low level and must be investigated further for issues with the measure or otherwise.

As expected, students were not able to read words and texts overall in the national language results and were slightly better able to read some of the French familiar words. However, given the 2 years of instruction in L2 and the lack of explicate teaching reading this was not a big surprise. The best performers could read one or two sentences in the text and those were second graders. With the nonword results about same as familiar words results in the national languages, it is notable that the students will be learning to read in these languages for the first time having had limited exposure to print in these languages that they speak and thus will be able to make great progress quickly with the new materials and new approach. Nonetheless, better results were expected given children exposure to French reading.

The linguistic context in which children learn has a potential impact on the development of reading competency. Children who learn to read in Wolof seem to be advantaged by their linguistic context since a majority of those children spoke Wolof with their friends and teachers and most of them reported watching television programs in Wolof. The situation is different for Pulaar and Seereer students; those students report less frequent exposure to their language when interacting with their teachers and when watching television. This means that potentially more effort will be needed in Pulaar and Seereer for developing reading competency as the linguistic context is different for these students.

The level of literacy of the parents is an important predictor of the reading competency of students in primary school. Reading to kids will help develop comprehension skills and influence children's interest in reading on their own. Most of the students report that their parents are not able to read. However, a majority of students have a sibling who is able to read. This is good news for the educational system and could help guide the intervention in its efforts to expose students to reading activities at home or outside school.

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While most of the school directors and teachers support the idea of using national languages with grade 1 and 2 students, teachers' lack of confidence in their language skills in national languages shows the need to support teachers, especially in reading and writing the national language they will work in. Lecture Pour Tous should be aware of this and provide support to them.

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## Annex B: Additional Sampling Tables

Schools			
IA/Region	Wolof	Pulaar	Seereer
Diourbel	10	4	13
Fatick	8	6	34
Kaffrine	14	15	3
Kaolack	15	5	20
Louga	15	9	0
Matam	8	30	0
Total	70	69	70

Teachers			
IA/Region	Wolof	Pulaar	Seereer
Diourbel	17	5	25
Fatick	12	10	60
Kaffrine	21	23	4
Kaolack	29	9	33
Louga	25	14	0
Matam	12	50	0
Total	116	111	122

Schools				
IA/Region	IEF/department	Wolof	Pulaar	Seereer
Diourbel	Diourbel	2	1	6
	Bambey	4	0	6
	Mbacké	4	3	1
Fatick	Gossas	2	1	5
	Foundiougne	4	2	6
	Fatick	2	3	12
	Diofior	0	0	11

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<b>Kaffrine</b>	Malem Hoddar	2	3	0
	Koungheul	5	7	1
	Kaffrine	2	1	2
	Birkelane	5	4	0
<b>Kaolack</b>	Kaolack Commune	4	0	0
	Guiguineo	3	2	7
	Nioro	3	0	1
	Kaolack-Département	5	3	12
<b>Louga</b>	Linguere	4	7	0
	Louga	7	2	0
	Kébémér	4	0	0
<b>Matam</b>	Matam	8	14	0
	Ranerou	0	3	0
	Kanel	0	13	0
<b>Total</b>		70	69	70

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